tilton

RACE-WINNING HERITAGE, QUALITY, VALUE, & SUPPORT

CHOSEN BY WINNERS SINCE 1972

In 1972 Mac and Adelle Tilton founded Tilton Engineering in El Segundo, California. Their mission was to supply innovative, high-quality products at fair prices and with sound advice. Mac utilized his vast racing and machining experience, most notably as Crew Chief for the Trans Am championship-winning Brock Racing Enterprises (BRE) team, to develop some of the most innovative products of their time. Adelle's excellent business sense and experience helped to ensure the long-term future of Tilton Engineering.

As Tilton Engineering's reputation grew, demand for their products increased. Tilton relocated in 1979 to a larger facility in Buellton, California where it is still located today. Tilton produces a wide range of driveline and brake components, in-cockpit controls and starter motors. Driveline components include clutches, flywheels, bellhousings and hydraulic release bearings. Brake components and in-cockpit controls include master cylinders, balance bars, pedal assemblies, proportioning valves and related accessories. Super Starters by Tilton were introduced in 1981 as the first high-torque mini-starters for racing and are offered for an array of applications.

Of the numerous innovations Tilton has brought to the racing world, most recognized is the carbon/carbon racing clutch. Tilton's was the first carbon/carbon clutch to be used in F1, winning its first race at the 1987 Detroit Grand Prix in Aryton Senna's Lotus-Honda. The technology developed by Tilton can be found in most carbon/carbon racing clutches of today, and Tilton products are used worldwide in nearly every form of racing.

The top priority at Tilton Engineering is quality. Tilton products are designed by experienced engineers, using the latest solid modeling CAD and FEA software.
Only the finest materials and processes are used to deliver the highest performance and most reliable products possible. 90% of Tilton's machined components are manufactured in-house using top-level equipment, including a Toyoda Horizontal Milling Center (HMC) and Mori Seiki lathes. After machining, products are quality checked using Browne and Sharpe Coordinate Measuring Machines (CMM) and tested using proprietary equipment.

A great product is nothing without great service behind it, and Tilton prides itself in providing excellent customer service. Experienced Tilton employees, most of whom have worked at Tilton for many years, are readily available to assist customers in selecting the most appropriate products and providing technical support. Tilton products are supported by a worldwide network of dealers, who are the very best in the industry. These dealers know their customers' needs and make significant investments in inventory to serve them quickly. They, along with Tilton's employees, are there to provide the customer with top-level service and the best purchase experience possible.

After 45 years, Tilton Engineering is still motivated by the same mission as day one…

Innovation. Quality. Value. Support.

Due to open December 2016, Tilton Engineering's latest project is a newly constructed facility in Buellton, CA. Designed to be energy efficient and to improve workflow efficiency, this new modern facility will enable Tilton to continue to provide the best products and service for many years to come.

Contents

Since **1972**, Tilton has grown to become one of the most widely used and successful clutches in racing. Tilton OT-Series clutches have earned a reputation of providing the highest levels of quality, performance and reliability. This reputation has led OT-Series clutches to claim numerous major race victories and championships each year.

OT-Series clutches are CAD-designed, precision CNC machined from the finest materials and meet strict quality control requirements. A wide variety of OT-Series clutches are available to meet the needs of most racing and high-performance applications.

OT-Series clutches are available in Metallic, Cerametallic and Carbon/Carbon models.

Features

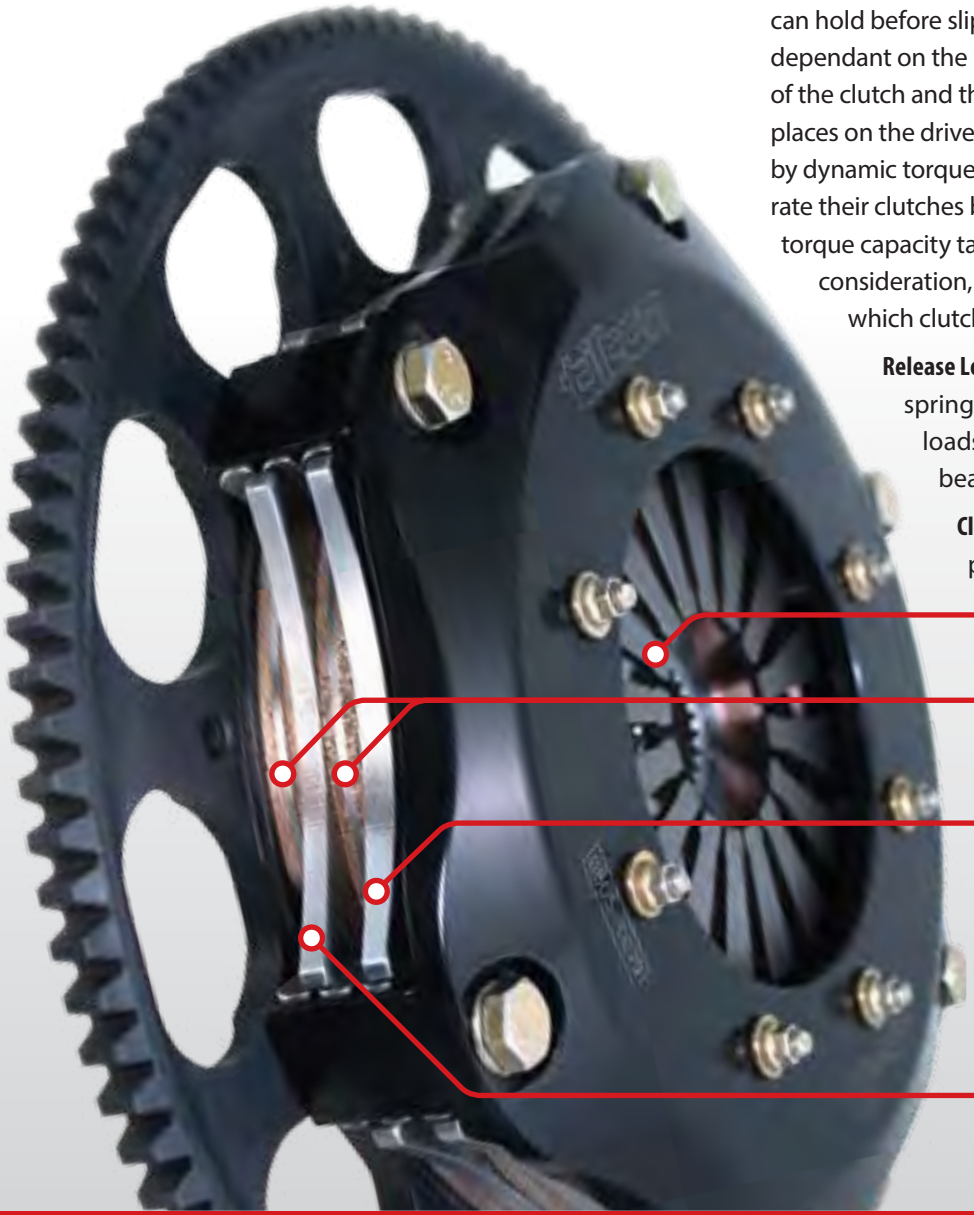
- Open clutch cover design for cooler and cleaner operation
- One-piece clutch cover has a high burst strength and minimal deflection for quick shifting
- Chrome vanadium diaphragm springs and an engineered pressure plate geometry provide a high clamp load-to-wear ratio, low release load and quick shifting
- Low Moment-of-Inertia (MOI) for quick engine acceleration and deceleration
- High torque capacity
- Individually balanced

Clutch Terminology

Torque Capacity: The amount of engine torque that the clutch can hold before slipping. Torque capacity of a clutch is dependant on the number of driven plates used, the diameter of the clutch and the clamp load that the diaphragm spring places on the driven plates. Tilton OT-Series clutches are rated by dynamic torque capacity. Some clutch manufacturers rate their clutches by breakaway torque capacity. Dynamic torque capacity takes torque spikes from engine firing into consideration, better representing the conditions under which clutches operate.

Release Load: Force required on the diaphragm spring to disengage the clutch. Lower release loads put less stress on the engine's thrust bearings and reduces pedal effort.

Clamp Load: Force applied by the clutch's diaphragm spring onto the driven plates.



Diaphragm Spring: The Belleville spring located in the clutch cover.

Driven Plate(s): The plate(s) within the clutch assembly that drive the transmission's input shaft.

Pressure Plate: The plate directly under the clutch's diaphragm spring, containing the fulcrum point where clamp load is placed onto the driven plates. Many Tilton OT-Series clutches are available with two pressure plate ratio options, High or Ultra-High.

Floater Plate: The plate(s) that separate the driven discs on multi-plate clutches.

Metallic Clutches

Metallic Disc Packs

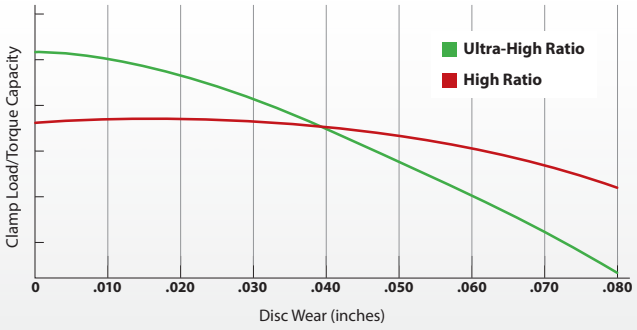
Since 1972, Tilton clutches have grown to become some of the most widely used and successful clutches in racing.

On any given weekend, Tilton OT-Series clutches can be found winning races, from the local race track to world renowned racing circuits. They have earned a reputation of providing the level of quality, performance and reliability needed to win championships!

OT-Series metallic race clutches offer the low moment-of-inertia, high torque capacity and the reliability for the most demanding racing applications. These features have made metallic clutches the most common clutch type used in road racing and circle track racing. Metallic clutches are not recommended for street use.

Pressure Plate Options

As standard, OT-Series clutches feature a High Ratio pressure plate that offers high clamp load over a wide wear range. As illustrated in the graphs below, the clamp load (torque capacity) of the High Ratio pressure plate is relatively flat until .030" (.76mm) of wear. As an option, 7.25" clutches are also available with an Ultra-High Ratio pressure plate. Ultra-High Ratio pressure plates provide 20% more clamp load and diaphragm spring travel (modulation) than High Ratio.



High Ratio Pressure Plate

- Standard pressure plate ratio for 5.5" & 7.25" clutches
- Short release travel for quick engagement and shifting
- Flat clamp load curve for longest wear range

Ultra-High Ratio Pressure Plate

- Optional pressure plate ratio for 7.25" clutches
- 20% more release travel than High Ratio for improved modulation
- 20% more clamp load than High Ratio for higher peak torque capacity
- Clamp load drops more quickly with wear than High Ratio

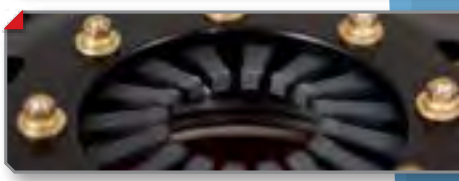
Tilton clutch friction discs are renowned for their durability, torque capacity and heat capacity. These discs are suited for race applications due to their quick engagement, long wear and consistent feel characteristics.

OT-Series metallic race clutches offer the low moment-of-inertia, high torque capacity and the reliability for the most demanding racing applications. These features have made metallic clutches the most common clutch type used in road racing and circle track racing. Metallic clutches are recommended solely for race track use.

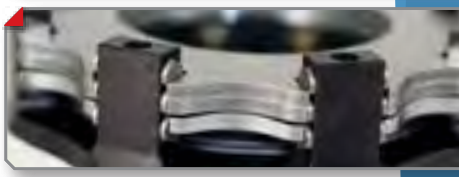
Features

Open, one-piece clutch cover design provides lower operating temperature, high strength and minimal deflection for quick shifting.

Chrome vanadium diaphragm springs and an engineered pressure plate geometry provide a high clamp load-to-wear ratio, low release load and quick shifting.

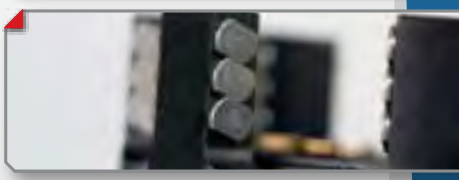


High-strength steel is used in both the pressure plates and the floater plates.



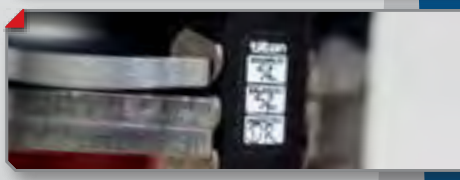
.104"-thick friction disc withstands elevated temperatures while providing low inertia and excellent wear resistance.

Hardened steel thrust buttons provide smooth and durable surface for pressure and floater plates.



Every Tilton OT clutch is dynamically balanced to ensure the highest level of performance.

Each OT clutch is individually inspected for proper assembly and balance, and initialed by the quality personnel as confirmation.



1, 2, & 3-plate | OT-II 7.25" (185mm)

Typical Applications

- Road Racing
- Circle Track
- Open Wheel/Formula

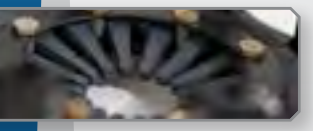
Product Details

Clutch Size:
7.25" (185 mm)

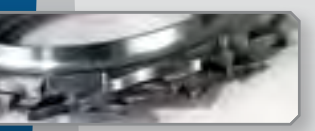
P/N: See Table

Pressure Plate Ratios:
- High (H)
- Ultra-High (UH)

Diaphragm Springs:
- White (W)
- Buff (BF)
- Orange (ORA)
- Gray (G)
- Double Gray (GG)
- Triple Gray (GGG)



Six diaphragm spring rate options offer a wide range of torque capacities and release loads to tune the clutch for the application.



Two pressure plate ratio options offer different torque capacity and modulation characteristics.

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

			Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
1-PLATE	Total Weight	(lbs / kg) 5.1 / 2.3	200/272	400/180	66-001HW
			240/326	400/180	66-001UW
			240/326	480/211	66-001HBF
			285/388	480/211	66-001UBF
			280/381	560/247	66-001HORA
	M.O.I.	(lb-in² / kg-m²) 44.1 / .0130	335/456	560/247	66-001UORA
			340/462	680/299	66-001HG
			410/558	680/299	66-001UG
			380/517	760/334	66-001HGG
			455/619	760/334	66-001UGG
2-PLATE	Total Weight	(lbs / kg) 5.1 / 2.3	400/544	400/180	66-002HW
			480/652	400/180	66-002UW
			480/652	480/211	66-002HBF
			570/775	480/211	66-002UBF
			560/762	560/247	66-002HORA
	M.O.I.	(lb-in² / kg-m²) 44.1 / .0130	670/911	560/247	66-002UORA
			680/925	680/299	66-002HG
			820/1115	680/299	66-002UG
			760/1034	760/334	66-002HGG
			910/1238	760/334	66-002UGG
3-PLATE	Total Weight	(lbs / kg) 5.1 / 2.3	720/979	480/211	66-003HBF
			855/1163	480/211	66-003UBF
			840/1142	560/247	66-003HORA
			1005/1367	560/247	66-003UORA
			1020/1387	680/299	66-003HG
	M.O.I.	(lb-in² / kg-m²) 44.1 / .0130	1230/1673	680/299	66-003UG
			1140/1550	760/328	66-003HGG
			1365/1856	760/328	66-003UGG
			1245/1693	800/330	66-003HGGG

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Exceptions will be noted. Clutches are also available for "pot-type" (no step) flywheels. Contact Tilton for further information.

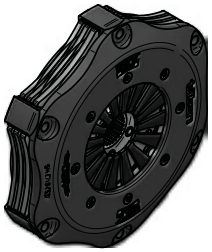
Release Load: Values listed are typical for release bearings with the recommended 44mm contact diameter. Larger contact diameters will increase release load.

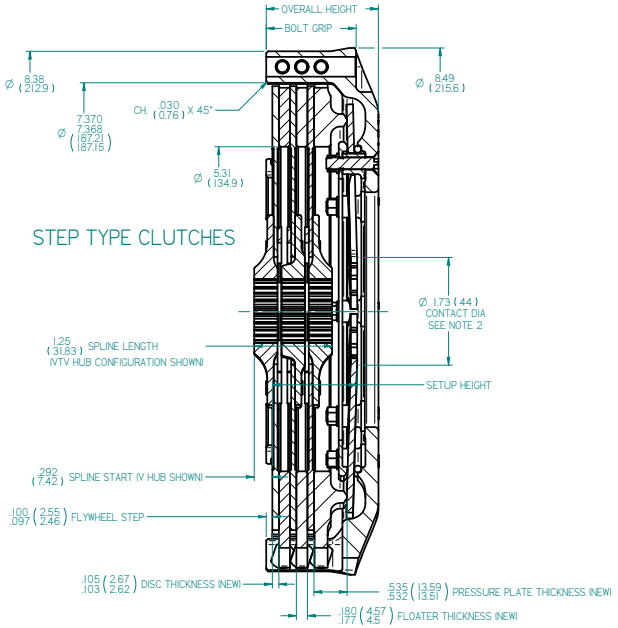
Weight and M.O.I. values include friction discs.

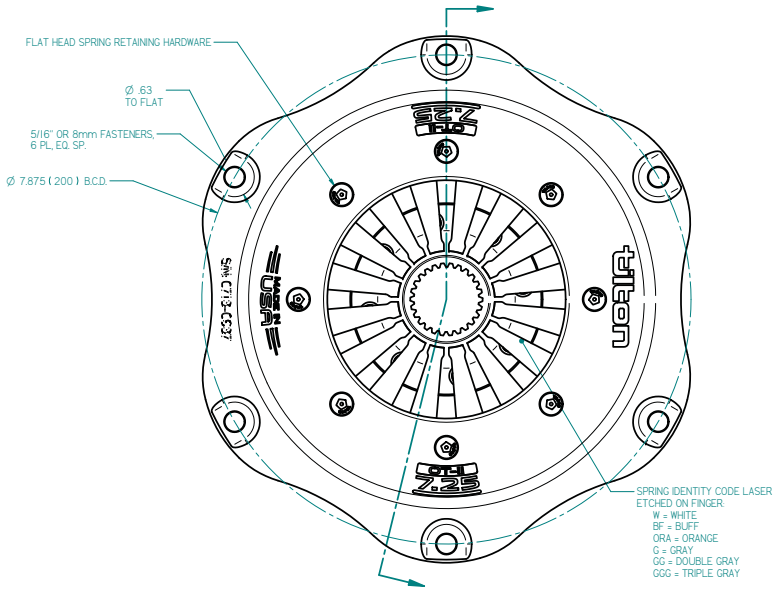
Service Parts	
Pressure Plates (.534" thick)	*Part Numbers*
7.25", high ratio	**66-118HR**
7.25", ultra-high ratio	**66-118UHR**
Floater Plate (.179" thick)	*Part Number*
7.25", standard	**66-119**

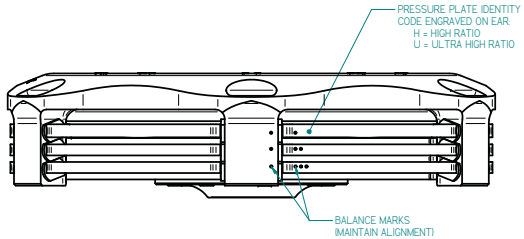
Detailed C lutch Drawing

REV	ECN	DATE	BY	CHANGE OR ADDITION









CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)*		SETUP HEIGHT (WORN .03")*		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
66-011XX	1	POT	0.804	20.42	0.954	24.23	0.780	19.81	1.140	28.96
66-001XX	1	STEP	0.804	20.42	0.954	24.23	0.880	22.35	1.240	31.50
66-012XX	2	POT	1.087	27.61	1.237	31.42	1.063	27.00	1.423	36.14
66-002XX	2	STEP	1.087	27.61	1.237	31.42	1.163	29.54	1.523	38.68
66-013XHX	3	POT	1.370	34.80	1.520	38.61	1.346	34.19	1.706	43.33
66-003XX	3	STEP	1.370	34.80	1.520	38.61	1.446	36.73	1.806	45.87
66-014XX	4	POT	1.653	41.99	1.803	45.80	1.629	41.38	1.989	50.52
66-004XX	4	STEP	1.653	41.99	1.803	45.80	1.729	43.92	2.089	53.06

* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS. SEE www.tiltonracing.com/TECHNICAL FOR MORE INFORMATION.

NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. MUST BE USED WITH RADIUS FACED RELEASE BEARING. CONTACT DIAMETER RANGE FROM 44mm TO 52mm. 44mm CONTACT DIAMETER HIGHLY RECOMMENDED.
3. ILLUSTRATED WITH DISC PACK P/N: 64185-4-VTV-36. DISCS SOLD SEPARATELY.

TILTON ENGINEERING, INC.
(805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: INSTALLATION DRAWING
CLUTCH, METALLIC, OT-II 7.25"

DRN BY	CHK'D	SCALE	DWG	REV
LUND	WAHL	1 : 1	6387	NC
P/N 66-0XXXX	DATE 8/3/2016	SHEET 1 OF 1		

3 & 4-plate

OT-II 7.25" (185mm) Heavy Duty

Typical Applications

- Off-Road
- Endurance
- Drifting
- Other applications that require additional heat capacity

Product Details

Clutch Size:
7.25" (185 mm)

P/N: See Table

Pressure Plate Ratios:
- High (H)
- Ultra-High (UH)

Diaphragm Springs:
- Orange (ORA)
- Gray (G)
- Double Gray (GG)
- Triple Gray (GGG)

Detailed Clutch Information

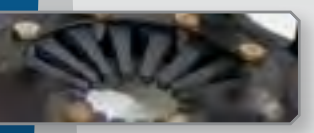
Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

			Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
3-PLATE	Total Weight	(lbs / kg) 10.6 / 4.8	840/1142	560/247	**66-503HORA**
			840/1142	560/247	**66-513HORA** (POT)
			1020/1387	680/299	**66-503HG**
			1020/1387	680/299	**66-513HG** (POT)
	M.O.I.	(lb-in² / kg-m²) 94.6 / .0278	1140/1550	760/334	**66-503HGG**
			1140/1550	760/334	**66-513HGG** (POT)
			1245/1693	800/352	**66-503HGGG**
			1245/1693	800/352	**66-513HGGG** (POT)
4-PLATE	Total Weight	(lbs / kg) 13.0 / 5.9	1120/1523	560/247	**66-504HORA**
			1120/1523	560/247	**66-514HORA** (POT)
			1360/1850	680/299	**66-504HG**
			1360/1850	680/299	**66-514HG** (POT)
	M.O.I.	(lb-in² / kg-m²) 115.9 / .0340	1520/2067	760/334	**66-504HGG**
			1520/2067	760/334	**66-514HGG** (POT)
			1660/2257	800/352	**66-504HGGG**
			1660/2257	800/352	**66-514HGGG** (POT)

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Exceptions will be noted. Clutches are also available for "pot-type" (no step) flywheels. Contact Tilton for further information.

Release Load: Values listed are typical for release bearings with the recommended 44mm contact diameter. Larger contact diameters will increase release load.

Weight and M.O.I. values include friction discs.



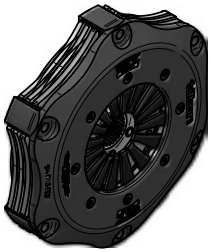
Four diaphragm spring rate options offer a wide range of torque capacities and release loads to tune the clutch for the application.

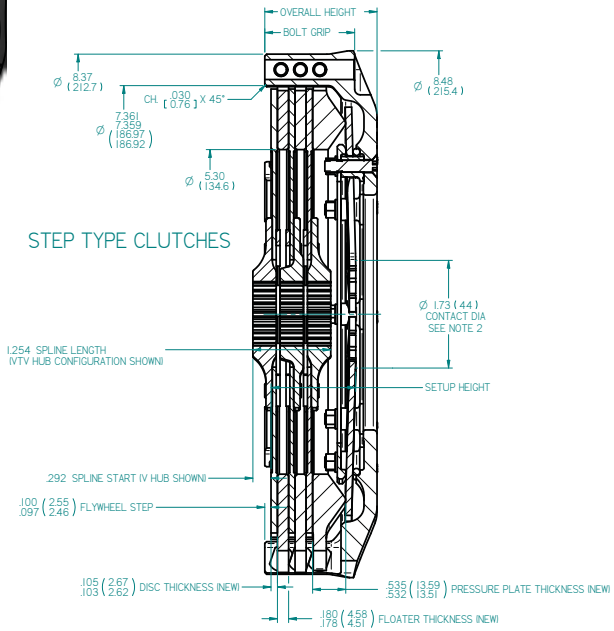
High-mass pressure plate provides additional heat capacity for severe applications.

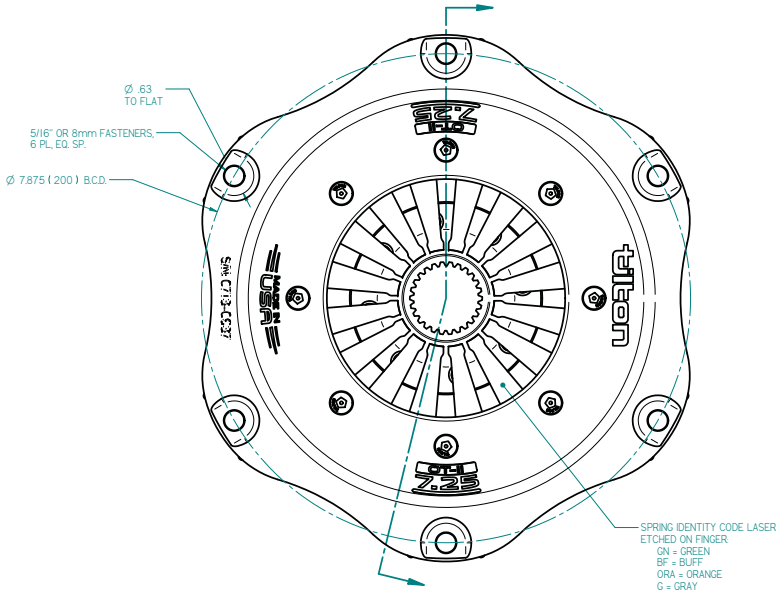
Service Parts	
Pressure Plates (.534" thick)	*Part Numbers*
7.25", high ratio, heavy-duty	**66-158HR**
Floater Plate (.179" thick)	*Part Number*
7.25", standard	**66-119**

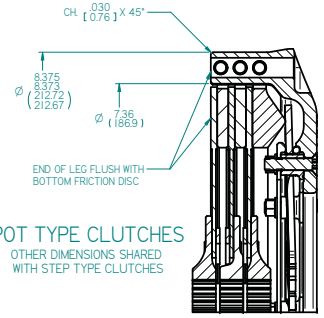
Detailed C lutch Drawing

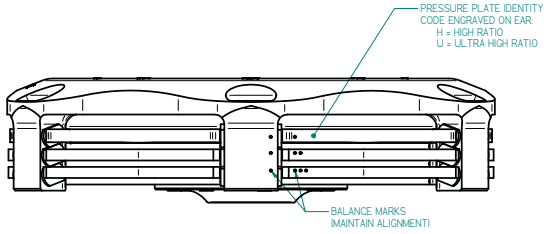
REV	ECN	DATE	BY	CHANGE OR ADDITION











CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)*		SETUP HEIGHT (WORN .03")*		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
66-513HX	3	POT	1.370	34.80	1.520	38.61	1.346	34.19	1.706	43.33
66-503HX	3	STEP	1.370	34.80	1.520	38.61	1.446	36.73	1.806	45.87
66-514HX	4	POT	1.653	41.99	1.803	45.80	1.629	41.38	1.989	50.52
66-504HX	4	STEP	1.653	41.99	1.803	45.80	1.729	43.92	2.089	53.06

* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS. SEE www.tiltonracing.com/TECHNICAL FOR MORE INFORMATION.

NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. MUST BE USED WITH RADIUS FACED RELEASE BEARING. CONTACT DIAMETER RANGE FROM 44mm TO 52mm. 44mm CONTACT DIAMETER HIGHLY RECOMMENDED.
3. ILLUSTRATED WITH DISC PACK P/N: 64185-4-VTV-36. DISCS SOLD SEPARATELY.

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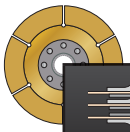
TITLE: INSTALLATION DRAWING
CLUTCH, METALLIC, HEAVY DUTY, OT-II 7.25"

DRN BY	CHK'D	SCALE	DWG	REV
LUND	WAHL	1 : 1	6389	NC
P/N 66-5XXXX	DATE 8/4/2016	SHEET 1 OF 1		

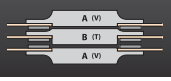
7.25" Disc Packs

OT-II 7.25



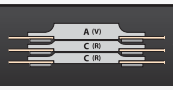
Standard disc that is suitable for most applications.
Six friction pads provide maximum surface area for low wear rate and high heat capacity

FULL CIRCLE | 6-rivet



"Back-to-Back" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*
10 x 7/8"	64185-2-A-03	64185-2-AA-03	N/A
10 x 1"	64185-2-A-04	64185-2-AA-04	N/A
10 x 1 1/4"	64185-2-A-07	64185-2-AA-07	N/A
10 x 1 1/8"	64185-2-A-06	64185-2-AA-06	64185-2-ABA-06
10 x 1 3/8"	64185-2-A-08	64185-2-AA-08	64185-2-ABA-08
10 x 29mm	64185-2-A-10	64185-2-AA-10	64185-2-ABA-10
10 x 35mm	64185-2-A-52	64185-2-AA-52	64185-2-ABA-52
14 x 25mm	64185-2-A-12	64185-2-AA-12	N/A
14 x 30.8mm	64185-2-A-14	64185-2-AA-14	64185-2-ABA-14
18 x 21mm	64185-2-A-17	64185-2-AA-17	N/A
18 x 1 3/16"	64185-2-A-19	64185-2-AA-19	64185-2-ABA-19
20 x 7/8"	64185-2-F-25	64185-2-AA-25	64185-2-ABA-25
21 x 29/32"	64185-2-A-26	64185-2-AA-26	64185-2-ABA-26
21 x 24mm	64185-2-A-27	64185-2-AA-27	N/A
21 x 29mm	64185-2-A-28	64185-2-AA-28	64185-2-ABA-28
22 x 15/16"	64185-2-A-42	64185-2-AA-42	N/A
22 x 1"	64185-2-A-29	64185-2-AA-29	64185-2-ABA-29
22 x 29.4mm	64185-2-A-51	64185-2-AA-51	64185-2-ABA-51
23 x 1" x 30 degree	64185-2-F-30	64185-2-AA-30	64185-2-ABA-30
23 x 24mm x 25 degree	64185-2-A-41	64185-2-AA-41	64185-2-ABA-41
24 x 13/16"	64185-2-A-32	64185-2-AA-32	N/A
24 x 15/16"	64185-2-A-47	64185-2-AA-47	N/A
24 x 1 x 27.5 degree (early Nissan)	64185-2-A-33	64185-2-AA-33	64185-2-ABA-33
24 x 1 x 30 degree (late Nissan)	64185-2-A-57	64185-2-AA-57	64185-2-ABA-57
24 x 26mm	64185-2-A-38	64185-2-AA-38	N/A
26 x 1 5/32"	64185-2-A-36	64185-2-AA-36	64185-2-ABA-36
26 x 35mm	64185-2-A-55	64185-2-AA-55	64185-2-ABA-55
28 x 7/8"	64185-2-A-39	64185-2-AA-39	N/A
29 x 1 1/4"	64185-2-A-46	64185-2-AA-46	64185-2-ABA-46

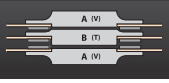


"Stacked" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*
10 x 1 1/16"	64185-2-A-05	64185-2-AC-05	64185-2-ACC-05
10 x 35 mm	64185-2-A-52	64185-2-AC-52	64185-2-ACC-52
10 x 29mm	64185-2-A-10	64185-2-AC-10	64185-2-ACC-10
18 x 25/32"	64185-2-A-18	64185-2-AC-18	64185-2-ACC-18
20 x 7/8"	64185-2-F-25	64185-2-AC-25	64185-2-ACC-25
21 x 29/32"	64185-2-A-26	64185-2-AC-26	64185-2-ACC-26
23 x 1" x 30 degree	64185-2-F-30	64185-2-AC-30	64185-2-ACC-30
23 x 24mm x 25 degree	64185-2-A-41	64185-2-AC-41	64185-2-ACC-41
24 x 13/16"	64185-2-A-32	64185-2-AC-32	64185-2-ACC-32
24 x 1" (late Nissan)	64185-2-A-57	64185-2-AC-57	64185-2-ACC-57
26 x 22mm	64185-2-A-35	64185-2-AC-35	64185-2-ACC-35
26 x 1 5/32"	64185-2-A-36	64185-2-AC-36	64185-2-ACC-36
26 x 35mm	64185-2-A-55	64185-2-AC-55	64185-2-ACC-55

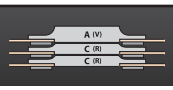
FULL CIRCLE | 8-rivet

Feature 8-rivet hubs on a larger BCD for additional attachment strength for the most demanding applications.



"Back-to-Back" Hub Configuration

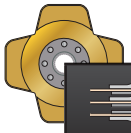
Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
10 x 1 1/8"	64185-4-V-06	64185-4-VV-06	64185-4-VTV-06	N/A
10 x 29mm	64185-4-V-10	64185-4-VV-10	64185-4-VTV-10	N/A
10 x 35mm	64185-4-V-52	64185-4-VV-52	64185-4-VTV-52	N/A
20 x 7/8"	64185-4-V-25	64185-4-VV-25	64185-4-VTV-25	N/A
23 x 1" x 30 degree	64185-4-W-30	64185-4-VV-30	64185-4-VTV-30	N/A
23 x 24mm x 25 degree	64185-4-V-41	64185-4-VV-41	N/A	N/A
26 x 1 5/32"	64185-4-V-36	64185-4-VV-36	64185-4-VTV-36	N/A
26 x 35mm	64185-4-V-55	64185-4-VV-55	64185-4-VTV-55	N/A
29 x 1 1/4"	64185-4-V-46	64185-4-VV-46	64185-4-VTV-46	N/A



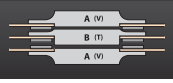
"Stacked" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
10 x 1 1/8"	64185-4-V-06	64185-4-VR-06	64185-4-VRR-06	N/A
10 x 29mm	64185-4-V-10	64185-4-VR-10	64185-4-VRR-10	N/A
14 X 30.8mm	64185-4-V-14	64185-4-VR-14	64185-4-VRR-14	64185-4-VRRR-14
23 x 1" x 30 degree	64185-4-W-30	64185-4-VR-30	64185-4-VRR-30	64185-4-VRRR-30
23 x 24mm x 25 degree	64185-4-V-41	64185-4-VR-41	64185-4-VRR-41	N/A
26 x 1 5/32"	64185-4-V-36	64185-4-VR-36	64185-4-VRR-36	64185-4-VRRR-36
29 x 1 1/4"	64185-4-V-46	64185-4-VR-46	64185-4-VRR-46	64185-4-VRRR-46

PADDLE | 8-rivet

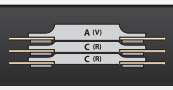


Lower inertia than full-circle discs, but have a slightly higher wear rate. Smooth radius between the friction segments also lowers core plate stress cause by misalignment betwen engine & tranmission and/or engine harmonics, resisting core plate cracking.



"Back-to-Back" Hub Configuration

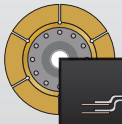
Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
10 x 1 1/8"	64185-3-V-06	64185-3-VV-06	64185-3-VTV-06	N/A
10 x 29mm	64185-3-V-10	64185-3-VV-10	64185-3-VTV-10	N/A
10 x 35mm	64185-3-V-52	64185-3-VV-52	64185-3-VTV-52	N/A
20 x 7/8"	64185-3-W-25	64185-3-VV-25	64185-3-VTV-25	N/A
23 x 1" x 30 degree	64185-3-V-30	64185-3-VV-30	64185-3-VTV-30	N/A
23 x 24mm x 25 degree	64185-3-V-41	64185-3-VV-41	N/A	N/A
26 x 1 5/32"	64185-3-V-36	64185-3-VV-36	64185-3-VTV-36	N/A
26 x 35mm	64185-3-V-55	64185-3-VV-55	64185-3-VTV-55	N/A
29 x 1 1/4"	64185-3-V-46	64185-3-VV-46	64185-3-VTV-46	N/A



"Stacked" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
10 x 1 1/8"	64185-3-V-06	64185-3-VR-06	64185-3-VRR-06	N/A
10 x 29mm	64185-3-V-10	64185-3-VR-10	64185-3-VRR-10	N/A
23 x 1" x 30 degree	64185-3-W-30	64185-3-VR-30	64185-3-VRR-30	64185-3-VRRR-30
23 x 24mm x 25 degree	64185-3-V-41	64185-3-VR-41	64185-3-VRR-41	N/A
26 x 1 5/32"	64185-3-V-36	64185-3-VR-36	64185-3-VRR-36	64185-3-VRRR-36
29 x 1 1/4"	64185-3-V-46	64185-3-VR-46	64185-3-VRR-46	64185-3-VRRR-46

FULL CIRCLE NESTED | 12-rivet



Offset hubs designed to engage short splines on some input shafts.

"Nested" Hub Configuration for crank bolt clearance

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
20 x 7/8"	64185-2-H-25	64185-2-HJ-25	N/A	N/A
23 x 1" x 30 degree	64185-2-H-30	64185-2-HJ-30	N/A	N/A

1, 2, 3 & 4-plate | OT-II 5.5" (140mm)

Typical Applications

- Road Racing
- Open Wheel/Formula
- Circle Track

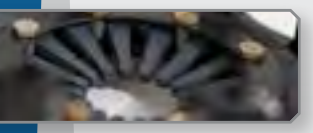
Product Details

Clutch Size:
5.5" (140 mm)

P/N: See Table

Pressure Plate Ratio:
• High (H)

Diaphragm Springs:
• White (W)
• Orange (ORA)
• Gray (G)



Three diaphragm spring rate options offer a wide range of torque capacities and release loads to tune the clutch for the application.

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

			Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
1-PLATE	Total Weight	(lbs / kg) 4.1 / 1.9	150/204	480/211	**67-001HW**
	M.O.I.	(lb-in² / kg-m²) 19.5 / .0057	200/272	510/225	**67-001HORA**
			250/340	850/375	**67-001HG**
2-PLATE	Total Weight	(lbs / kg) 5.7 / 2.6	300/408	480/211	**67-002HW**
	M.O.I.	(lb-in² / kg-m²) 29.8 / .0087	400/544	510/225	**67-002HORA**
			500/680	850/375	**67-002HG**
3-PLATE	Total Weight	(lbs / kg) 7.3 / 3.3	450/612	480/211	**67-003HW**
			450/612	480/211	**67-013HW** (POT)
			600/816	510/225	**67-003HORA**
	M.O.I.	(lb-in² / kg-m²) 40.1 / .0118	600/816	510/225	**67-013HORA** (POT)
			750/1020	850/375	**67-003HG**
			750/1020	850/375	**67-013HG** (POT)
4-PLATE	Total Weight	(lbs / kg) 8.9 / 4.0	800/1088	510/375	**67-004HORA**
			800/1088	510/375	**67-014HORA** (POT)
	M.O.I.	(lb-in² / kg-m²) 50.4 / .0148	1000/1360	850/375	**67-004HG**
			1000/1360	850/375	**67-014HG** (POT)

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Exceptions will be noted. Clutches are also available for "pot-type" (no step) flywheels. Contact Tilton for further information.

Release Load: Values listed are typical for release bearings with the recommended 38mm contact diameter. Larger contact diameters will increase release load.

Weight and M.O.I. values include friction discs.

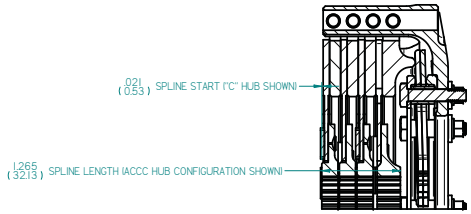
Service Parts	
Pressure Plates (.534" thick)	*Part Numbers*
5.5", high ratio	**67-118HR**
Floater Plate (.179" thick)	*Part Number*
5.5", standard	**67-119**

Detailed C lutch Drawing

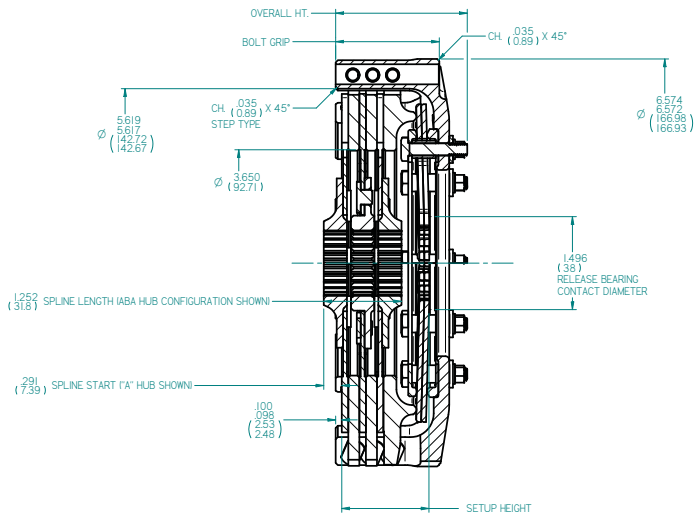
REV	ECN	DATE	BY	CHANGE OR ADDITION

CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)*		SETUP HEIGHT (WORN .03")*		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
67-011HX	1	POT	0.820	20.83	0.940	23.88	1.003	25.48	1.461	37.11
67-001HX	1	STEP	0.820	20.83	0.940	23.88	1.102	27.99	1.560	39.62
67-012HX	2	POT	1.100	27.94	1.220	30.99	1.286	32.66	1.741	44.22
67-002HX	2	STEP	1.100	27.94	1.220	30.99	1.385	35.18	1.840	46.74
67-013HX	3	POT	1.380	35.05	1.500	38.10	1.569	39.85	2.021	51.33
67-003HX	3	STEP	1.380	35.05	1.500	38.10	1.668	42.37	2.120	53.85
67-014HX	4	POT	1.680	42.67	1.800	45.72	1.851	47.02	2.300	58.42
67-004HX	4	STEP	1.680	42.67	1.800	45.72	1.950	49.53	2.400	60.96

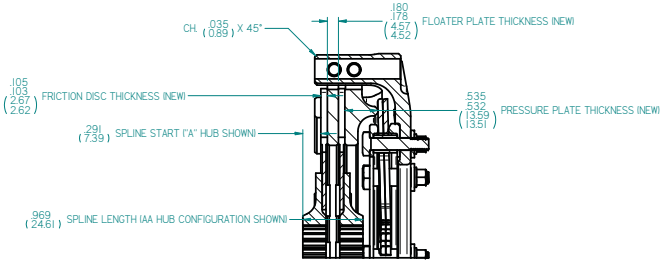
* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS. SEE www.tiltonracing.com/TECHNICAL FOR MORE INFORMATION.



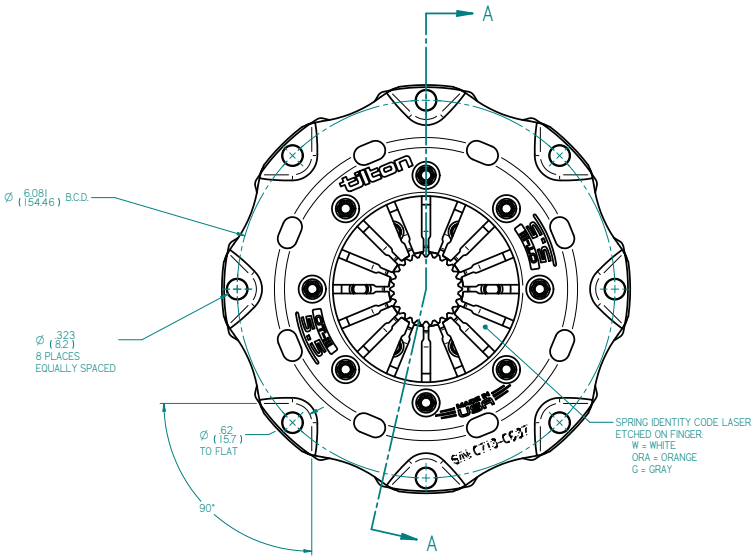
4 PLATE, POT TYPE ("ACCC" DISC PACK HUB CONFIGURATION)

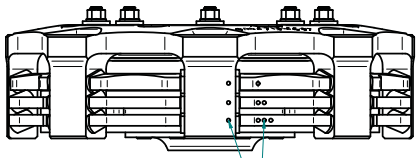


3 PLATE, STEP TYPE ("ABA" DISC PACK HUB CONFIGURATION)



2 PLATE, STEP TYPE ("AA" DISC PACK HUB CONFIGURATION)





NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. CLUTCH WILL FUNCTION WITH ANY RADIUS FACED BEARING FROM 38mm TO 52mm DIA. 38mm BEARING HIGHLY RECOMMENDED FOR BEST FEEL AND LOWEST RELEASE LOAD.
3. ILLUSTRATED WITH DISC PACK PART NUMBERS AS FOLLOWS:
   67-002HG WITH 64140-9-AA-36
   67-003HG WITH 64140-9-ABA-36
   67-014HG WITH 64140-9-ACCC-36
   DISCS SOLD SEPARATELY.

TILTON ENGINEERING, INC.
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA
(805) 688-2353 FAX (805) 688-2745

TITLE: INSTALLATION DRAWING
METALLIC CLUTCH, OT-III 5.5"

DRN BY	LUND	CHK'D	WAHL	SCALE	1 : 1	DWG	6402	REV	NC
P/N	67-0XXXX	DATE	8/9/2016	SHEET	1 OF 1				

3 & 4-plate | OT-III 5.5" (140mm) Heavy Duty

Typical Applications

- Road Racing
- Endurance Racing
- Short Course Off Road

Product Details

Clutch Size:
5.5" (140 mm)

P/N: See Table

Pressure Plate Ratio:
• High (H)

Diaphragm Springs:
• Orange (ORA)
• Gray (G)

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

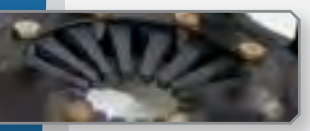
				Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
3-PLATE	Total Weight	(lbs / kg)	7.7 / 3.5	600/816	510/225	**67-503HORA**
				600/816	510/225	**67-513HORA** (POT)
	M.O.I.	(lb-in² / kg-m²)	42.4 / .0125	750/1020	850/375	**67-503HG**
				750/1020	850/375	**67-513HG** (POT)
4-PLATE	Total Weight	(lbs / kg)	9.3 / 4.2	800/1088	510/525	**67-504HORA**
				800/1088	510/525	**67-514HORA** (POT)
	M.O.I.	(lb-in² / kg-m²)	52.7 / .0154	1000/1360	850/375	**67-504HG**
				1000/1360	850/375	**67-514HG** (POT)

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Exceptions will be noted. Clutches are also available for "pot-type" (no step) flywheels. Contact Tilton for further information.

Release Load: Values listed are typical for release bearings with the recommended 38mm contact diameter. Larger contact diameters will increase release load.

Weight and M.O.I. values include friction discs.

Service Parts	
Pressure Plates (.534" thick)	*Part Numbers*
5.5", high ratio, heavy-duty	**67-158HR**
Floater Plate (.179" thick)	*Part Number*
5.5", heavy-duty	**67-159**

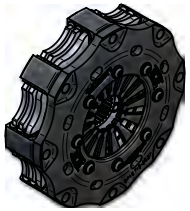


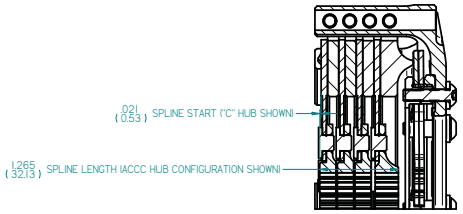
Two diaphragm spring rate options offer a wide range of torque capacities and release loads to tune the clutch for the application.

Photo courtesy of Wayne Taylor Racing

Detailed C lutch Drawing

REV	ECN	DATE	BY	CHANGE OR ADDITION

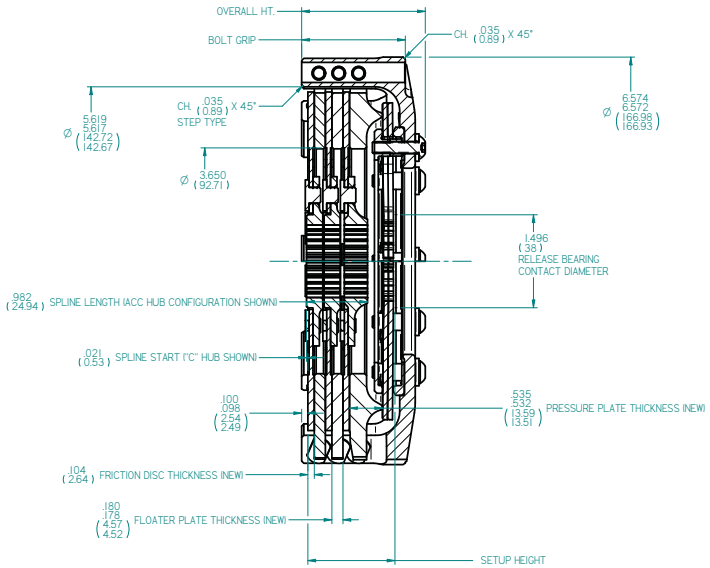


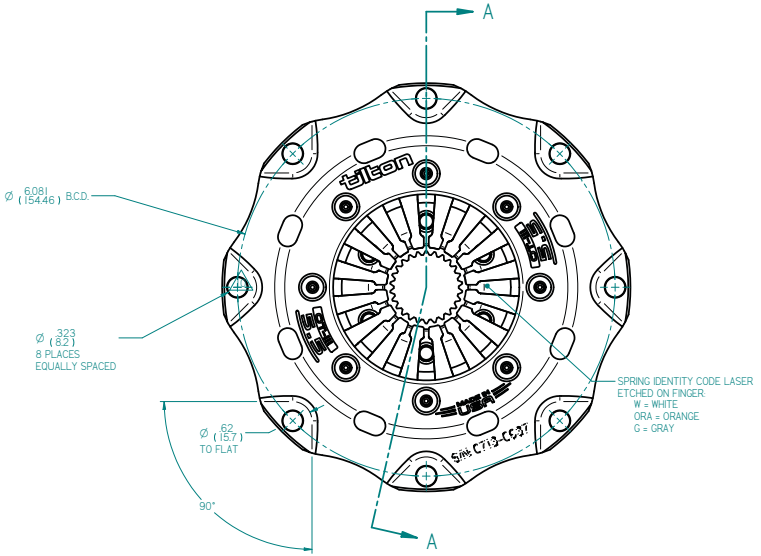


CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)*		SETUP HEIGHT (WORN .03")*		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
67-513HX	3	POT	1.380	35.05	1.500	38.10	1.569	39.85	1.989	50.52
67-503HX	3	STEP	1.380	35.05	1.500	38.10	1.668	42.37	1.989	50.52
67-514HX	4	POT	1.680	42.67	1.800	45.72	1.852	47.04	2.272	57.71
67-504HX	4	STEP	1.680	42.67	1.800	45.72	1.951	49.56	2.272	57.71

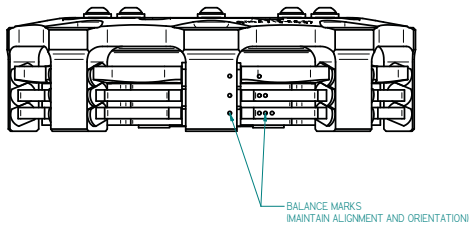
* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS. SEE www.tiltonracing.com/TECHNICAL FOR MORE INFORMATION.

4 PLATE, STEP TYPE ("ACCC" DISC PACK HUB CONFIGURATION)





3 PLATE, STEP TYPE ("ACC" DISC PACK HUB CONFIGURATION)



NOTES:

1. PRIMARY DIMENSION IN INCHES. SECONDARY DIMENSIONS (mm).
2. CLUTCH WILL FUNCTION WITH ANY RADIUS FACED BEARING FROM 38mm TO 52mm DIA. 38mm BEARING HIGHLY RECOMMENDED FOR BEST FEEL AND LOWEST RELEASE LOAD.
3. ILLUSTRATED WITH DISC PACK PART NUMBERS AS FOLLOWS:

   67-503HG WITH 64140-9-ACC-36
   67-504HG WITH 64140-9-ACCC-36
   DISCS SOLD SEPARATELY.

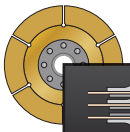
TILTON ENGINEERING, INC.
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA
(805) 688-2353 FAX (805) 688-2745

TITLE: ASSEMBLY DRAWING, 5.5" METALLIC CLUTCHES
TILTON OT-III HEAVY DUTY

DRN BY	LUND	CHK'D	WAHL	SCALE 1 : 1	DWG	6403	REV	NC
P/N	67-5XXHX	DATE	8/9/2016	SHEET 1 OF 1				

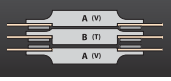
5.5" Disc Packs

OT-III 5.5



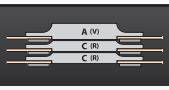
Standard disc that is suitable for most applications.
Six friction pads provide maximum surface area for low wear rate and high heat capacity

FULL CIRCLE | 6-rivet



"Back-to-Back" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*
10 x 7/8"	64140-9-A-03	64140-9-AA-03	N/A
10 x 1"	64140-9-A-04	64140-9-AA-04	N/A
10 x 1 1/4"	64140-9-A-07	64140-9-AA-07	N/A
10 x 1 1/8"	64140-9-A-06	64140-9-AA-06	64140-9-ABA-06
10 x 1 3/8"	64140-9-A-08	64140-9-AA-08	64140-9-ABA-08
10 x 29mm	64140-9-A-10	64140-9-AA-10	64140-9-ABA-10
10 x 35mm	64140-9-A-52	64140-9-AA-52	64140-9-ABA-52
14 x 25mm	64140-9-A-12	64140-9-AA-12	N/A
14 x 30.8mm	64140-9-A-14	64140-9-AA-14	64140-9-ABA-14
18 x 21mm	64140-9-A-17	64140-9-AA-17	N/A
18 x 1 3/16"	64140-9-A-19	64140-9-AA-19	64140-9-ABA-19
20 x 7/8"	64140-9-F-25	64140-9-AA-25	64140-9-ABA-25
21 x 29/32"	64140-9-A-26	64140-9-AA-26	64140-9-ABA-26
21 x 24mm	64140-9-A-27	64140-9-AA-27	N/A
21 x 29mm	64140-9-A-28	64140-9-AA-28	64140-9-ABA-28
22 x 15/16"	64140-9-A-42	64140-9-AA-42	N/A
22 x 1"	64140-9-A-29	64140-9-AA-29	64140-9-ABA-29
22 x 29.4mm	64140-9-A-51	64140-9-AA-51	64140-9-ABA-51
23 x 1" x 30 degree	64140-9-F-30	64140-9-AA-30	64140-9-ABA-30
23 x 24mm x 25 degree	64140-9-A-41	64140-9-AA-41	64140-9-ABA-41
24 x 13/16"	64140-9-A-32	64140-9-AA-32	N/A
24 x 15/16"	64140-9-A-47	64140-9-AA-47	N/A
24 x 1 x 27.5 degree (early Nissan)	64140-9-A-33	64140-9-AA-33	64140-9-ABA-33
24 x 1 x 30 degree (late Nissan)	64140-9-A-57	64140-9-AA-57	64140-9-ABA-57
24 x 26mm	64140-9-A-38	64140-9-AA-38	N/A
26 x 1 5/32"	64140-9-A-36	64140-9-AA-36	64140-9-ABA-36
26 x 35mm	64140-9-A-55	64140-9-AA-55	64140-9-ABA-55
28 x 7/8"	64140-9-A-39	64140-9-AA-39	N/A
29 x 1 1/4"	64140-9-A-46	64140-9-AA-46	64140-9-ABA-46

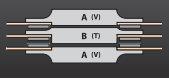


"Stacked" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
10 x 1 1/16"	64140-9-A-05	64140-9-AC-05	64140-9-ACC-05	N/A
10 x 35 mm	64140-9-A-52	64140-9-AC-52	64140-9-ACC-52	N/A
10 x 29mm	64140-9-A-10	64140-9-AC-10	64140-9-ACC-10	N/A
18 x 25/32"	64140-9-A-18	64140-9-AC-18	64140-9-ACC-18	N/A
20 x 7/8"	64140-9-F-25	64140-9-AC-25	64140-9-ACC-25	N/A
21 x 29/32"	64140-9-A-26	64140-9-AC-26	64140-9-ACC-26	N/A
23 x 1" x 30 degree	64140-9-F-30	64140-9-AC-30	64140-9-ACC-30	64140-9-ACCC-30
23 x 24mm x 25 degree	64140-9-A-41	64140-9-AC-41	64140-9-ACC-41	N/A
24 x 13/16"	64140-9-A-32	64140-9-AC-32	64140-9-ACC-32	N/A
24 x 1" (late Nissan)	64140-9-A-57	64140-9-AC-57	64140-9-ACC-57	N/A
26 x 22mm	64140-9-A-35	64140-9-AC-35	64140-9-ACC-35	N/A
26 x 1 5/32"	64140-9-A-36	64140-9-AC-36	64140-9-ACC-36	64140-9-ACCC-36
26 x 35mm	64140-9-A-55	64140-9-AC-55	64140-9-ACC-55	N/A

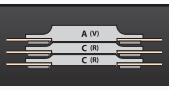
PADDLE | 8-rivet

Lower inertia than full-circle discs, but have a slightly higher wear rate. Smooth radius between the friction segments also lowers core plate stress cause by misalignment betwen engine & tranmission and/or engine harmonics, resisting core plate cracking.



"Back-to-Back" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*
10 x 7/8"	64140-3-A-03	64140-3-AA-03	N/A
10 x 1"	64140-3-A-04	64140-3-AA-04	N/A
10 x 1 1/4"	64140-3-A-07	64140-3-AA-07	N/A
10 x 1 1/8"	64140-3-A-06	64140-3-AA-06	64140-3-ABA-06
10 x 1 3/8"	64140-3-A-08	64140-3-AA-08	64140-3-ABA-08
10 x 29mm	64140-3-A-10	64140-3-AA-10	64140-3-ABA-10
10 x 35mm	64140-3-A-52	64140-3-AA-52	64140-3-ABA-52
14 x 25mm	64140-3-A-12	64140-3-AA-12	N/A
14 x 30.8mm	64140-3-A-14	64140-3-AA-14	64140-3-ABA-14
18 x 21mm	64140-3-A-17	64140-3-AA-17	N/A
18 x 1 3/16"	64140-3-A-19	64140-3-AA-19	64140-3-ABA-19
20 x 7/8"	64140-3-F-25	64140-3-AA-25	64140-3-ABA-25
21 x 29/32"	64140-3-A-26	64140-3-AA-26	64140-3-ABA-26
21 x 24mm	64140-3-A-27	64140-3-AA-27	N/A
21 x 29mm	64140-3-A-28	64140-3-AA-28	64140-3-ABA-28
22 x 15/16"	64140-3-A-42	64140-3-AA-42	N/A
22 x 1"	64140-3-A-29	64140-3-AA-29	64140-3-ABA-29
22 x 29.4mm	64140-3-A-51	64140-3-AA-51	64140-3-ABA-51
23 x 1" x 30 degree	64140-3-F-30	64140-3-AA-30	64140-3-ABA-30
23 x 24mm x 25 degree	64140-3-A-41	64140-3-AA-41	64140-3-ABA-41
24 x 13/16"	64140-3-A-32	64140-3-AA-32	N/A
24 x 15/16"	64140-3-A-47	64140-3-AA-47	N/A
24 x 1" (early Nissan)	64140-3-A-33	64140-3-AA-33	64140-3-ABA-33
24 x 1" (late Nissan)	64140-3-A-57	64140-3-AA-57	64140-3-ABA-57
24 x 26mm	64140-3-A-38	64140-3-AA-38	N/A
26 x 1 5/32"	64140-3-A-36	64140-3-AA-36	64140-3-ABA-36
26 x 35mm	64140-3-A-55	64140-3-AA-55	64140-3-ABA-55
28 x 7/8"	64140-3-A-39	64140-3-AA-39	N/A
29 x 1 1/4"	64140-3-A-46	64140-3-AA-46	64140-3-ABA-46



"Stacked" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*	*3-plate*	*4-plate*
10 x 1 1/16"	64140-3-A-05	64140-3-AC-05	64140-3-ACC-05	N/A
10 x 35 mm	64140-3-A-52	64140-3-AC-52	64140-3-ACC-52	N/A
10 x 29mm	64140-3-A-10	64140-3-AC-10	64140-3-ACC-10	N/A
18 x 25/32"	64140-3-A-18	64140-3-AC-18	64140-3-ACC-18	N/A
20 x 7/8"	64140-3-F-25	64140-3-AC-25	64140-3-ACC-25	N/A
21 x 29/32"	64140-3-A-26	64140-3-AC-26	64140-3-ACC-26	N/A
23 x 1" x 30 degree	64140-3-F-30	64140-3-AC-30	64140-3-ACC-30	64140-3-ACCC-30
23 x 24mm x 25 degree	64140-3-A-41	64140-3-AC-41	64140-3-ACC-41	N/A
24 x 13/16"	64140-3-A-32	64140-3-AC-32	64140-3-ACC-32	N/A
24 x 1" (late Nissan)	64140-3-A-57	64140-3-AC-57	64140-3-ACC-57	N/A
26 x 22mm	64140-3-A-35	64140-3-AC-35	64140-3-ACC-35	N/A
26 x 1 5/32"	64140-3-A-36	64140-3-AC-36	64140-3-ACC-36	64140-3-ACCC-36
26 x 35mm	64140-3-A-55	64140-3-AC-55	64140-3-ACC-55	N/A

Cerametallic Clutches 1 & 2-plate | OT-II 7.25" (185mm)

Tilton OT-Series cerametallic clutches are primarily designed for racing applications where some clutch modulation is desired. OT-Series cerametallic clutches feature 4-paddle discs that utilize a unique blend of ceramic and metallic materials. Because the cerametallic discs are thicker than sintered metallic discs, they provide higher heat capacity through their increased mass.

In addition, the engagement characteristics of cerametallic clutches are smoother than sintered metallic clutches. These features have made cerametallic clutches popular in applications such as rally, hill climb, club racing, off road, and extreme street/strip applications.

Typical Applications

- Rally
- Club Racing
- Road Racing
- Off-Road
- Extreme Street/Strip

Product Details

Clutch Size:
7.25" (185 mm)

P/N: See Table

Pressure Plate Ratios:
- High (H)
- Ultra-High (UH)

Diaphragm Springs:
- White (W)
- Buff (BF)
- Orange (ORA)
- Gray (G)
- Double Gray (GG)
- Triple Gray (GGG)

Service Parts	
Pressure Plates (.458" thick)	*Part Numbers*
7.25", high ratio	**66-118HR-R**
7.25", ultra-high ratio	**66-118UHR-R**
Floater Plate (.179" thick)	*Part Number*
7.25", standard	**66-119**

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

				Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
1-PLATE	Total Weight	(lbs / kg)	5.6 / 2.5	200/272	400/180	**66-301HW**
				240/326	400/180	**66-301UW**
				240/326	480/211	**66-301HBF**
				285/388	480/211	**66-301UBF**
				280/381	560/247	**66-301HORA**
				335/456	560/247	**66-301UORA**
	M.O.I.	(lb-in² / kg-m²)	52.4 / .0154	340/462	680/299	**66-301HG**
				410/558	680/299	**66-301UG**
				380/517	760/334	**66-301HGG**
				455/619	760/334	**66-301UGG**
2-PLATE	Total Weight	(lbs / kg)	8.2 / 3.7	400/544	400/180	**66-302HW**
				480/652	400/180	**66-302UW**
				480/652	480/211	**66-302HBF**
				570/775	480/211	**66-302UBF**
				560/762	560/247	**66-302HORA**
	M.O.I.	(lb-in² / kg-m²)	76.3 / .0225	670/911	560/247	**66-302UORA**
				680/925	680/299	**66-302HG**
				820/1115	680/299	**66-302UG**
				760/1034	760/334	**66-302HGG**
				910/1238	760/334	**66-302UGG**
				830/1129	800/352	**66-302HGGG**

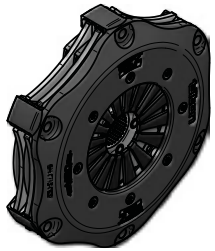
Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Exceptions will be noted. Clutches are also available for "pot-type" (no step) flywheels. Contact Tilton for further information.

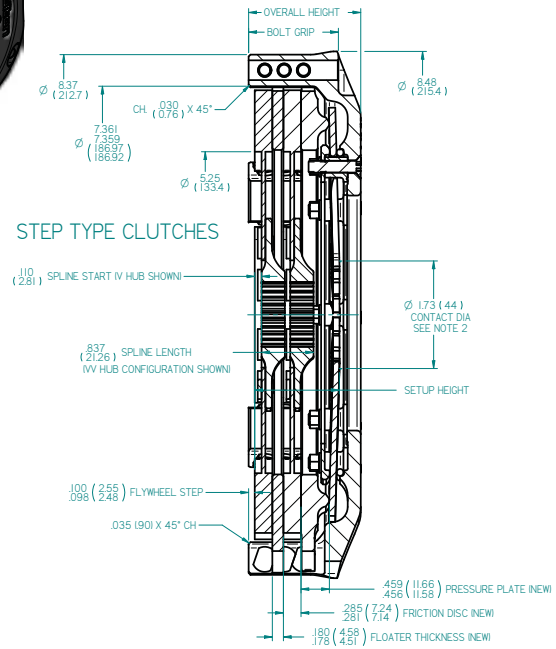
Release Load: Values listed are typical for release bearings with the recommended 44mm contact diameter. Larger contact diameters will increase release load.

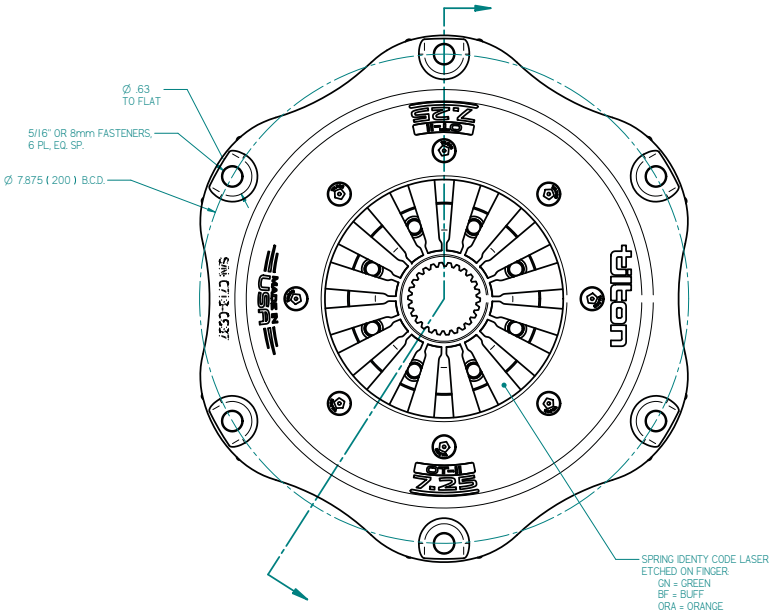
Weight and M.O.I. values include friction discs.

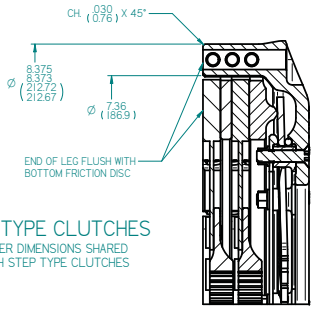
Detailed C lutch Drawing

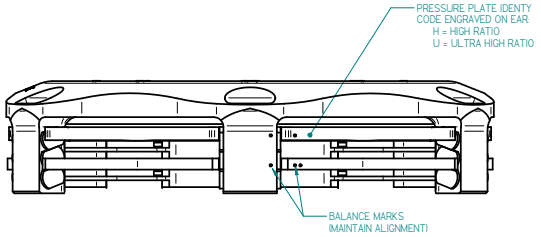
REV	ECN	DATE	BY	CHANGE OR ADDITION











CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)*		SETUP HEIGHT (WORN .03")*		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
66-301XX	1	STEP	0.910	23.11	1.060	26.92	0.986	25.04	1.346	34.19
66-312XX	2	POT	1.370	34.80	1.520	38.61	1.346	34.19	1.706	43.33
66-302XX	2	STEP	1.370	34.80	1.520	38.61	1.446	36.73	1.806	45.87

* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS. SEE www.tiltonracing.com/TECHNICAL FOR MORE INFORMATION.

NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. MUST BE USED WITH RADIUS FACED RELEASE BEARING. CONTACT DIAMETER RANGE FROM 44mm TO 52mm. 44mm CONTACT DIAMETER HIGHLY RECOMMENDED.
3. ILLUSTRATED WITH DISC PACK P/N: 64185-8-VV-36. DISCS SOLD SEPARATELY.

TILTON ENGINEERING, INC. (805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: INSTALLATION DRAWING
CLUTCH, CERAMETALLIC, OT-II 7.25"

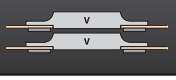
DRN BY	CHK'D	SCALE	DWG	REV
LUND	WAHL	1 : 1	6392	NC
P/N 66-3XXXXX	DATE 8/4/2016	SHEET 1 OF 1		

Cerametallic Disc Packs

OT-II 7.25

Lower inertia than full-circle discs, but have a slightly higher wear rate. Smooth radius between the friction segments also lowers core plate stress cause by misalignment betwen engine & tranmission and/or engine harmonics, resisting core plate cracking.

PADDLE | 8-rivet



"Back-to-Back" Hub Configuration

Input Shaft Size (# of teeth x diameter)	*1-plate*	*2-plate*
10 x 7/8"	64185-8-V-03	64185-8-VV-03
10 x 1"	64185-8-V-04	64185-8-VV-04
10 x 1 1/16"	64185-8-V-05	64185-8-VV-05
10 x 1 1/8"	64185-8-V-06	64185-8-VV-06
10 x 1 3/8"	64185-8-V-08	64185-8-VV-08
10 x 29mm	64185-8-V-10	64185-8-VV-10
10 x 35mm	64185-8-V-52	64185-8-VV-52
14 x 25mm	64185-8-V-12	64185-8-VV-12
14 x 30.8mm	64185-8-V-14	64185-8-VV-14
18 x 1 3/16"	64185-8-V-19	64185-8-VV-19
20 x 7/8"	64185-8-W-25	64185-8-VV-25
21 x 29/32"	64185-8-V-26	64185-8-VV-26
21 x 24mm	64185-8-V-27	64185-8-VV-27
21 x 29mm	64185-8-V-28	64185-8-VV-28
22 x 15/16"	64185-8-V-42	64185-8-VV-42
22 x 1"	64185-8-V-29	64185-8-VV-29
22 x 29.4mm	64185-8-V-51	64185-8-VV-51
23 x 1" x 30 degree	64185-8-W-30	64185-8-VV-30
23 x 24mm x 25 degree	64185-8-V-41	64185-8-VV-41
24 x 13/16"	64185-8-V-32	64185-8-VV-32
24 x 15/16"	64185-8-V-47	64185-8-VV-47
24 x 1 x 27.5 degree (early Nissan)	64185-8-V-33	64185-8-VV-33
24 x 1 x 30 degree (late Nissan)	64185-8-V-57	64185-8-VV-57
24 x 26mm	64185-8-V-38	64185-8-VV-38
26 x 1 5/32"	64185-8-W-36	64185-8-VV-36
26 x 35mm	64185-8-V-55	64185-8-VV-55
29 x 1 1/4"	64185-8-V-46	64185-8-VV-46

Carbon/Carbon Clutches

Tilton Engineering invented the carbon/carbon racing clutch and patented the drive system in the mid-80's. It was the first carbon/carbon clutch ever to win a Formula One Grand Prix (Ayrton Senna's Lotus-Honda at the 1987 US Grand Prix in Detroit). Since then, Tilton OT-Series carbon clutches have been continually refined to be the best on the market. They have seen multiple victories in races worldwide, from the 24 Hours of Le Mans to the Baja 1000.

Utilizing the experience Tilton has gained over the last thirty-plus years, OT-Series carbon/carbon clutches have evolved to be second to none in quality. Each is built using the finest materials and the latest manufacturing processes while holding to strict quality control standards. As part of their build process, OT-Series carbon clutches are rigorously tested and documented before being delivered to the customer.

Tilton OT-Series carbon clutches offer a unique combination of an extremely low inertia, high torque capacity, high heat capacity and smooth engagement characteristics. Because of these features, they can be found used in road racing, endurance racing, off-road and high-performance street applications.

The carbon matrix plates (driven & floater) do not warp from heat, providing consistent shifting and minimizing heat-related clutch failures. The smooth engagement characteristics of the carbon plates provide good drivability and reduce "shock" to other driveline components. Through the use of additional pressure plates (shims) and periodic rebuilds, OT-Series carbon/carbon clutches offer long life under extreme-performance conditions.

Features

Open, one-piece clutch cover design provides lower operating temperature, high strength and minimal deflection for quick shifting.

Individually clamp-load and dyno-tested before shipping.

Each clutch is assigned a unique serial number to clutch history through the Tilton database.

Steel pressure plate/shims are available in varying thicknesses, enabling customers to service clutches as carbon stack wears.

Pressure Plate Options

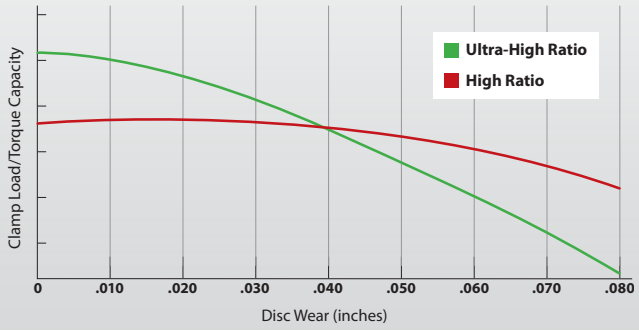
As standard, OT-Series 4.50" and 5.5" carbon clutches feature a High Ratio pressure plate that offers high clamp load over a wide wear range. As illustrated in the graphs below, the clamp load (torque capacity) of the High Ratio pressure plate is relatively flat until .030" (.76mm) of wear. Ultra-High Ratio pressure plates, which are standard on 7.25" and optional on 5.5" carbon clutches, provide 20% more clamp load and diaphragm spring travel (modulation) than High Ratio pressure plates.

High Ratio Pressure Plate

- Standard pressure plate ratio for 4.50"/5.5" carbon clutches
- Short release travel for quick engagement and shifting
- Flat clamp load curve for longest wear range

Ultra-High Ratio Pressure Plate

- Optional pressure plate ratio for 5.5" carbon clutches.
- Standard pressure plate ratio for 7.25" carbon clutches.
- 20% more release travel than High Ratio for improved modulation
- 20% more clamp load than High Ratio for higher peak torque capacity
- Clamp load drops more quickly with wear than High Ratio



2, 3, & 4-plate | OT-II 7.25" (185mm)

Typical Applications

- Road Racing
- Endurance
- Rally
- Rallycross
- Short Course Off-Road
- Extreme Street/Strip

Product Details

Clutch Size:
7.25" (185 mm)

P/N: See Table

Pressure Plate Ratios:
- High (H)
- Ultra-High (UH)

Diaphragm Springs:
- Orange (ORA)
- Gray (G)
- Double Gray (GG)
- Triple Gray (GGG)

Four diaphragm spring rate options offer a wide range of torque capacities and release loads to tune the clutch for the application.

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

				Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
2-PLATE	Total Weight	(lbs / kg)	6.2 / 2.8	670/911	560/247	**6572USORA-S**
				670/911	560/247	**6572USORA-P** (POT)
				820/1115	680/299	**6572USG-S**
	M.O.I.	(lb-in² / kg-m²)	52.81 / 0.0155	820/1115	680/299	**6572USG-P** (POT)
				910/1238	760/334	**6572USGG-S**
				910/1238	760/334	**6572USGG-P** (POT)
3-PLATE	Total Weight	(lbs / kg)	7.6 / 3.4	1005/1367	560/247	**6573USORA-S**
				1005/1367	560/247	**6573USORA-P** (POT)
				1230/1673	680/299	**6573USG-S**
				1230/1673	680/299	**6573USG-P** (POT)
	M.O.I.	(lb-in² / kg-m²)	63.71 / 0.0186	1365/1856	760/334	**6573USGG-S**
				1365/1856	760/334	**6573USGG-P** (POT)
				1485/2020	800/352	**6573USGGG-S**
				1485/2020	800/352	**6573USGGG-P** (POT)
4-PLATE	Total Weight	(lbs / kg)	9.1 / 4.1	1640/2230	680/299	**6574USG-S**
				1640/2230	680/299	**6574USG-P** (POT)
				1820/2475	760/334	**6574USGG-S**
	M.O.I.	(lb-in² / kg-m²)	74.85 / 0.0219	1820/2475	760/334	**6574USGG-P** (POT)
				1980/2693	800/352	**6574USGGG-S**
				1980/2693	800/352	**6574USGGG-P** (POT)

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Exceptions will be noted. Clutches are also available for "pot-type" (no step) flywheels. Contact Tilton for further information.

Release Load: Values listed are typical for release bearings with the recommended 44mm contact diameter. Larger contact diameters will increase release load.

Weight and M.O.I. values include friction discs.

Service Parts

Pressure Plates (Wear-Compensation Shims)

Designed to compensate for carbon plate wear. Available in .010" (.254mm) increments up to .500" (12.7mm) thick.

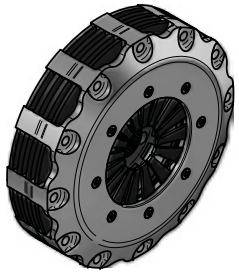
Ultra-High Ratio

.360"	**657-118U-360**	.410"	**657-118U-410**	.460"	**657-118U-460**
.370"	**657-118U-370**	.420"	**657-118U-420**	.470"	**657-118U-470**
.380"	**657-118U-380**	.430"	**657-118U-430**	.480"	**657-118U-480**
.390"	**657-118U-390**	.440"	**657-118U-440**	.490"	**657-118U-490**
.400"	**657-118U-400**	.450"	**657-118U-450**	.500"	**657-118U-500**

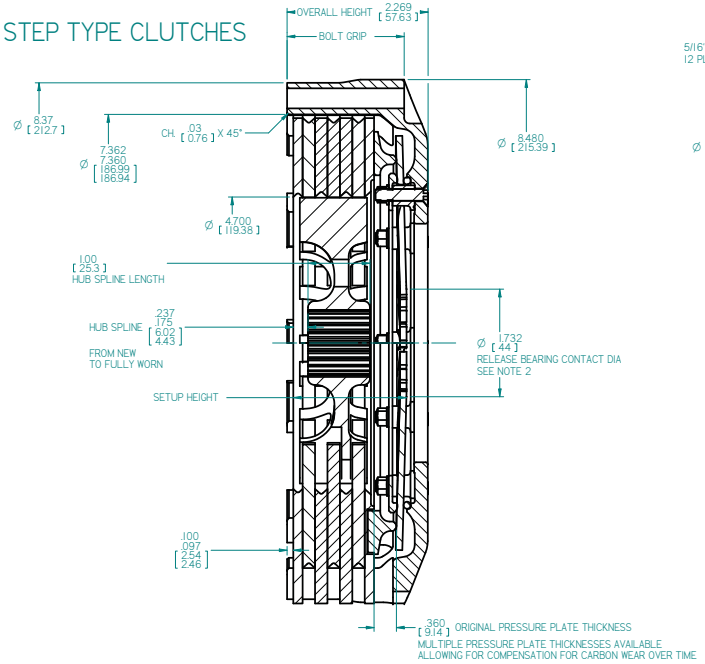
Detailed C lutch Drawing

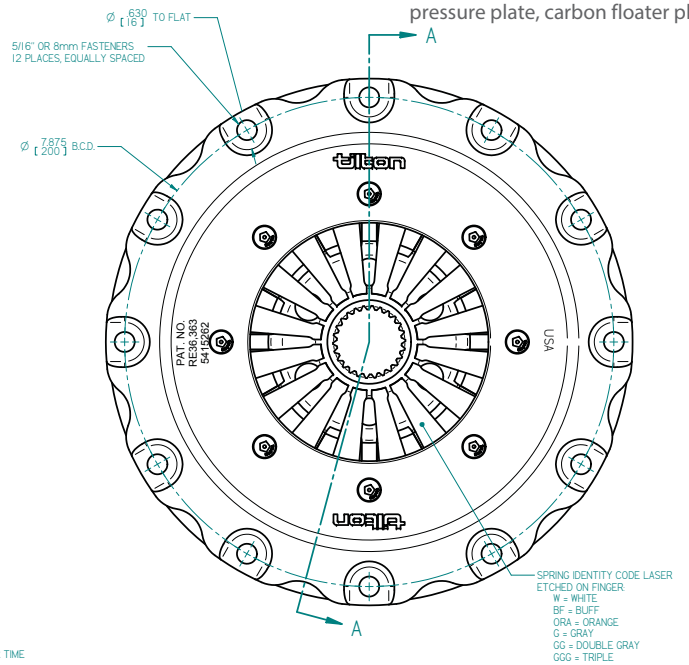
REV	ECN	DATE	BY	CHANGE OR ADDITION

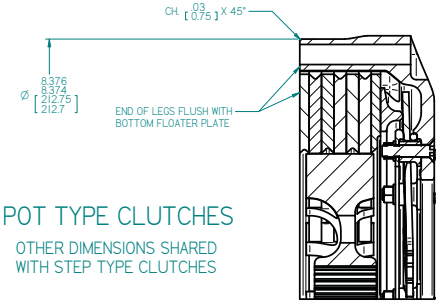
Clutch assemblies include clutch cover (with diaphragm spring), pressure plate, carbon floater plates, carbon discs and steel hub.



STEP TYPE CLUTCHES

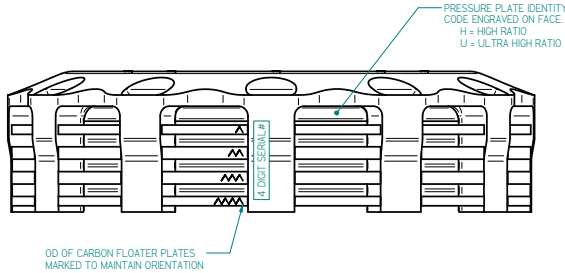






POT TYPE CLUTCHES

OTHER DIMENSIONS SHARED WITH STEP TYPE CLUTCHES



CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)*		SETUP HEIGHT (WORN)*		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
6572XXX-P	2	POT	1.440	36.58	1.590	40.39	1.384	35.15	1.769	44.93
6572XXX-S	2	STEP	1.440	36.58	1.590	40.39	1.484	37.69	1.869	47.47
6573XXX-P	3	POT	1.840	46.74	1.990	50.55	1.784	45.31	2.169	55.09
6573XXX-S	3	STEP	1.840	46.74	1.990	50.55	1.884	47.85	2.269	57.63
6574XXX-P	4	POT	2.240	56.90	2.390	60.71	2.184	55.47	2.569	65.25
6574XXX-S	4	STEP	2.240	56.90	2.390	60.71	2.284	58.01	2.669	67.79

* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS. SEE www.tiltonracing.com/TECHNICAL FOR MORE INFORMATION.

NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. SUPPLIED WITH .360" (9.14mm) THICK PRESSURE PLATE. ADDITIONAL PLATES AVAILABLE (.010"/.25mm INCREMENTAL THICKNESS).
3. SUPPLIED WITH SPLINED DRIVE HUB. SPECIFY SPLINE WHEN ORDERING.
4. AVAILABLE IN EITHER HIGH OR ULTRA HIGH RATIO PRESSURE PLATES.
5. MUST BE USED WITH RADIUS FACED RELEASE BEARING. CONTACT DIAMETER RANGE FROM 44mm TO 52mm. 44mm CONTACT DIAMETER HIGHLY RECOMMENDED.
6. CARBON PLATE THICKNESSES VARY BY PART NUMBER. REFER TO CARBON/CARBON CLUTCH BUILD RECORD PER INDIVIDUAL CLUTCH SERIAL NUMBER.

TILTON ENGINEERING, INC. (805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: INSTALLATION DRAWING
CARBON/CARBON CLUTCH, OT-II 7.25"

DRN BY	CHK'D	SCALE	DWG	REV
LUND	WAHL	1 : 1	5762	A
P/N SEE TABLE	DATE 12/19/2014	SHEET 1 OF 1		

1, 2, 3, & 4-plate | OT-III 5.5" (140mm)

Typical Applications

- Road Racing
- Endurance
- Open Wheel/Formula

Product Details

Clutch Size:
5.5" (140mm)

P/N: See Table

Pressure Plate Ratios:
- High (H)
- Ultra-High (UH)

Diaphragm Springs:
- Orange (ORA)
- Gray (G)

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

			Torque Capacity (lb-ft/Nm)	Release Load (lb/daN)	Part Numbers
1-PLATE	Total Weight	(lbs / kg) 3.0 / 1.4	200/272	480/211	**6551HSORA-S**
			200/272	480/211	**6551HSORA-P** (POT)
			240/326	480/211	**6551USORA-S**
			240/326	480/211	**6551USORA-P** (POT)
	M.O.I.	(lb-in² / kg-m²) 14.6 / .0043	250/340	850/375	**6551HSG-S**
			250/340	850/375	**6551HSG-P** (POT)
			300/408	850/375	**6551USG-S**
			300/408	850/375	**6551USG-P** (POT)
2-PLATE	Total Weight	(lbs / kg) 3.7 / 1.7	400/544	480/211	**6552HSORA-S**
			400/544	480/211	**6552HSORA-P** (POT)
			480/652	480/211	**6552USORA-S**
			480/652	480/211	**6552USORA-P** (POT)
	M.O.I.	(lb-in² / kg-m²) 17.8 / .0052	500/680	850/375	**6552HSG-S**
			500/680	850/375	**6552HSG-P** (POT)
			600/816	850/375	**6552USG-S**
			600/816	850/375	**6552USG-P** (POT)
3-PLATE	Total Weight	(lbs / kg) 4.4 / 2.0	600/816	480/211	**6553HSORA-S**
			600/816	480/211	**6553HSORA-P** (POT)
			720/928	480/211	**6553USORA-S**
			720/928	480/211	**6553USORA-P** (POT)
	M.O.I.	(lb-in² / kg-m²) 22.0 / .0065	750/1020	850/375	**6553HSG-S**
			750/1020	850/375	**6553HSG-P** (POT)
			900/1224	850/375	**6553USG-S**
			900/1224	850/375	**6553USG-P** (POT)
4-PLATE	Total Weight	(lbs / kg) 5.2 / 2.3	800/1088	480/211	**6554HSORA-S**
			800/1088	480/211	**6554HSORA-P** (POT)
			960/1324	480/211	**6554USORA-S**
			960/1324	480/211	**6554USORA-P** (POT)
	M.O.I.	(lb-in² / kg-m²) 25.3 / .0074	1000/1360	850/375	**6554HSG-S**
			1000/1360	850/375	**6554HSG-P** (POT)
			1200/1632	850/375	**6554USG-S**
			1200/1632	850/375	**6554USG-P** (POT)

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Clutches available for "pot-type" (no step) flywheels will be noted. Contact Tilton for further information.

* Values listed are typical for release bearings with the recommended 38mm contact diameter. Larger contact diameters will increase release load.

** Weight and M.O.I. include pressure plate, carbon floater plates, carbon discs and steel hub, and may vary based on your particular spline.

Service Parts

Pressure Plates (Wear-Compensation Shims)

Designed to compensate for carbon plate wear. Available in .010" (.254mm) increments up to .307" (7.80mm) thick.

High-Ratio

.187"	**655-118H-187S**	.237"	**655-118H-237S**	.287"	**655-118H-287S**
.197"	**655-118H-197S**	.247"	**655-118H-247S**	.297"	**655-118H-297S**
.207"	**655-118H-207S**	.257"	**655-118H-257S**	.307"	**655-118H-307S**
.217"	**655-118H-217S**	.267"	**655-118H-267S**		
.227"	**655-118H-227S**	.277"	**655-118H-277S**		

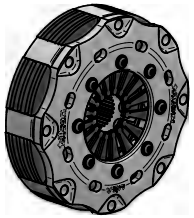
Ultra-High Ratio

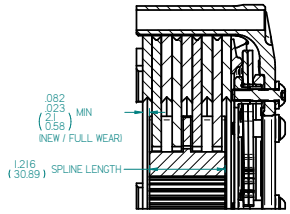
.187"	**655-118U-187S**	.237"	**655-118U-237S**	.287"	**655-118U-287S**
.197"	**655-118U-197S**	.247"	**655-118U-247S**	.297"	**655-118U-297S**
.207"	**655-118U-207S**	.257"	**655-118U-257S**	.307"	**655-118U-307S**
.217"	**655-118U-217S**	.267"	**655-118U-267S**		
.227"	**655-118U-227S**	.277"	**655-118U-277S**		

Detailed C lutch Drawing

REV	ECN	DATE	BY	CHANGE OR ADDITION

Clutch assemblies include clutch cover (with diaphragm spring), pressure plate, carbon floater plates, carbon discs and steel hub.

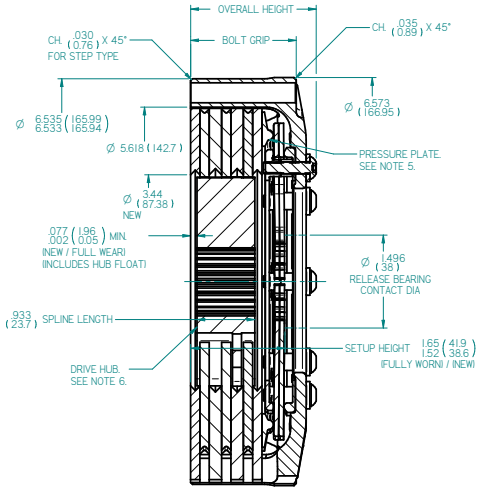




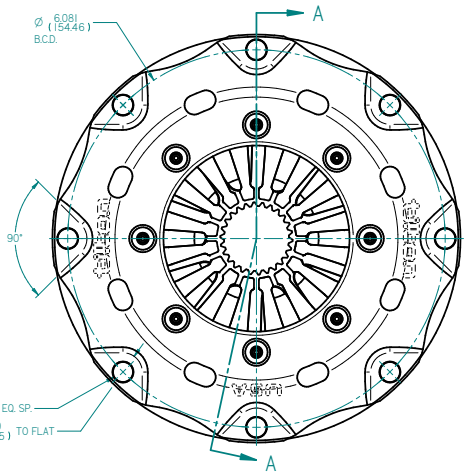
4 PLATE, STEP TYPE

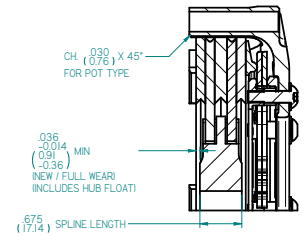
CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)		SETUP HEIGHT (WORN)		BOLT GRIP		OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM	IN	MM
6551XXX-P	1	POT	0.868	22.05	0.998	25.35	1.048	26.62	1.338	33.99
6551XXX-S	1	STEP	0.868	22.05	0.998	25.35	1.147	29.13	1.437	36.50
6552XXX-P	2	POT	1.171	29.74	1.301	33.05	1.351	34.32	1.686	42.82
6552XXX-S	2	STEP	1.171	29.74	1.301	33.05	1.450	36.83	1.740	44.20
6553XXX-P	3	POT	1.520	38.61	1.650	41.91	1.700	43.18	2.020	51.31
6553XXX-S	3	STEP	1.520	38.61	1.650	41.91	1.799	45.69	2.119	53.82
6554XXX-P	4	POT	1.795	45.59	1.925	48.90	1.975	50.17	2.297	58.34
6554XXX-S	4	STEP	1.795	45.59	1.925	48.90	2.074	52.68	2.396	60.86

* SETUP HEIGHT VARIES SLIGHTLY WITH SPRING AND PRESSURE PLATE COMBINATIONS.

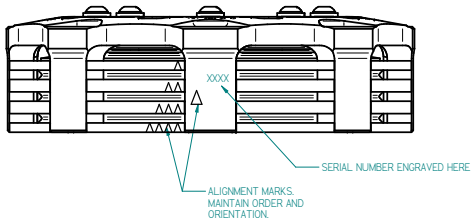


SECTION A-A
3 PLATE POT TYPE





2 PLATE, STEP TYPE



NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. SUPPLIED WITH .187" (4.75mm) THICK PRESSURE PLATE. ADDITIONAL PLATES AVAILABLE (.010"/.25mm INCREMENTAL THICKNESS).
3. SUPPLIED WITH SPLINED DRIVE HUB. SPECIFY SPLINE WHEN ORDERING.
4. ALSO AVAILABLE WITH MEDIUM AND ULTRA HIGH RATIO PRESSURE PLATES.
5. MUST BE USED WITH RADIUS FACED RELEASE BEARING. 38mm CONTACT DIAMETER HIGHLY RECOMMENDED.
6. CARBON PLATE THICKNESSES VARY BY PART NUMBER. REFER TO CARBON/CARBON CLUTCH BUILD RECORD PER INDIVIDUAL CLUTCH SERIAL NUMBER.

TILTON ENGINEERING, INC.
(805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: **INSTALLATION DRAWING**
CLUTCH, CARBON/CARBON, OT-III 5.5"

DRN BY	LUND	CHK'D	WAHL	SCALE	1 : 1	DWG	6396	REV	NC
P/N	655XXXX-X	DATE	8/5/2016	SHEET	1 OF 1				

3 & 4-plate | OT-V 4.5" (114mm)

Typical Applications

- Open Wheel/Formula
- Road Racing

Product Details

Clutch Size:
4.50" (114 mm)

P/N: See Table

Pressure Plate Ratios:
• High (H)

Diaphragm Spring:
• Gray (G)

Detailed Clutch Information

Clutch assemblies include clutch cover with diaphragm spring, pressure plate and floater plate(s).

			Torque Capacity *(lb-ft/Nm)*	Release Load *(lb/daN)*	Part Numbers
3-PLATE	Total Weight	(lbs / kg) 5.1 / 2.3	690/938	800/352	**6513HSG-S**
	M.O.I.	(lb-in² / kg-m²) 44.1 / .0130	690/938	800/352	**6513HSG-P** (POT)
4-PLATE	Total Weight	(lbs / kg) 5.1 / 2.3	920/1251	800/352	**6514HSG-S**
	M.O.I.	(lb-in² / kg-m²) 44.1 / .0130	920/1251	800/352	**6514HSG-P** (POT)

Notes:
Clutches listed are for use with "step-type" flywheels that have a .100" step for the friction surface. Clutches available for "pot-type" (no step) flywheels will be noted. Contact Tilton for further information.

* Values listed are typical for release bearings with the recommended 38mm contact diameter. Larger contact diameters will increase release load.

** Weight and M.O.I. include pressure plate, carbon floater plates, carbon discs and steel hub, and may vary based on your particular spline.

Service Parts

Pressure Plates (Wear-Compensation Shims)

Designed to compensate for carbon plate wear.
Available in .010" (.254mm) increments up to .310" (7.87mm) thick.

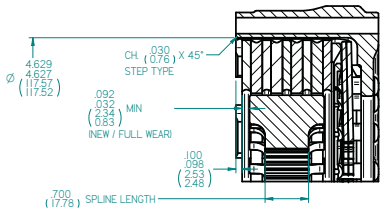
High Ratio

.160"	**651-118H-160S**	.240"	**651-118H-240S**
.170"	**651-118H-170S**	.250"	**651-118H-250S**
.180"	**651-118H-180S**	.260"	**651-118H-260S**
.190"	**651-118H-190S**	.270"	**651-118H-270S**
.200"	**651-118H-200S**	.280"	**651-118H-280S**
.210"	**651-118H-210S**	.290"	**651-118H-290S**
.220"	**651-118H-220S**	.300"	**651-118H-300S**
.230"	**651-118H-230S**	.310"	**651-118H-310S**

Photo credit: Indianapolis Motor Speedway, LLC Photography

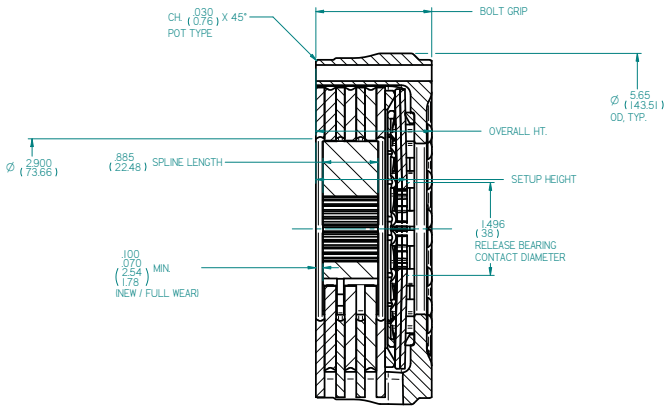
Detailed C lutch Drawing

REV	ECN	DATE	BY	CHANGE OR ADDITION

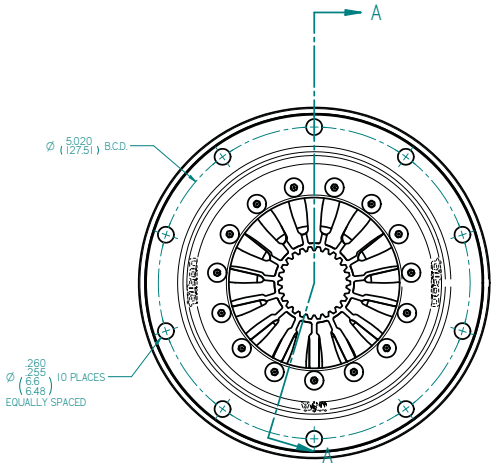


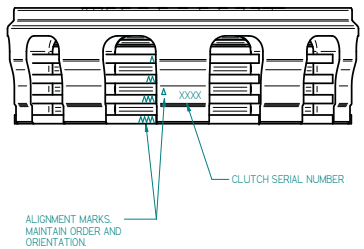
4 PLATE, STEP TYPE

CLUTCH P/N	# OF DISCS	FLYWHEEL MOUNTING	SETUP HEIGHT (NEW)		SETUP HEIGHT (.010 WEAR)		BOLT GRIP = OVERALL HEIGHT	
			IN	MM	IN	MM	IN	MM
6513XXX-P	3	POT	1.465	37.21	1.505	38.23	1.864	47.35
6513XXX-S	3	STEP	1.465	37.21	1.505	38.23	1.963	49.86
6514XXX-P	4	POT	1.790	45.47	1.830	46.48	2.189	55.60
6514XXX-S	4	STEP	1.790	45.47	1.830	46.48	2.288	58.12



3 PLATE, POT TYPE





NOTES:

1. PRIMARY DIMENSIONS ARE INCHES. SECONDARY DIMENSIONS (MM).
2. SUPPLIED WITH .160" (4.06mm) THICK PRESSURE PLATE. ADDITIONAL PLATES AVAILABLE (.010"/.25mm INCREMENTAL THICKNESS).
3. SUPPLIED WITH SPLINED DRIVE HUB. SPECIFY SPLINE WHEN ORDERING.
4. MUST BE USED WITH RADIUS FACED RELEASE BEARING. 38mm CONTACT DIAMETER HIGHLY RECOMMENDED.
5. CARBON PLATE THICKNESSES VARY BY PART NUMBER. REFER TO CARBON/CARBON CLUTCH BUILD RECORD PER INDIVIDUAL CLUTCH SERIAL NUMBER.

TILTON ENGINEERING, INC.
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA
(805) 688-2353 FAX (805) 688-2745

TITLE: **INSTALLATION DRAWING**
CLUTCH, CARBON/CARBON, OT-V 4.5"

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P/N 651XXXX-X	DATE 8/5/2016	SHEET 1 OF 1		

Clutch Kits | Metallic Clutch Kits

Metallic Clutch Kits

Tilton metallic clutch kits are primarily designed for road racing applications, but are suitable for most racing applications. Utilizing .104" thick sintered metallic discs, Tilton metallic clutch kits offer low weight, a low moment-of-inertia and high torque capacity. Due to their aggressive engagement characteristics, these clutch kits are not recommended for street use.

For further details regarding Tilton metallic clutches, please see page 1.

Application	Part Number	Plate Count	Weight (lbs)	MOI (lb-in²)	Torque Capacity
Chevy Camaro GEN5 (168-tooth FW)	56-816	3-plate	18.0	266	1020
Chevy Camaro GEN5 (153-tooth FW)*	56-817	3-plate	19.3	249	1020
Chevy Corvette C5 (168-tooth FW)	56-804	3-plate	18.0	266	1020
Chevy Corvette C5 (153-tooth FW)*	56-818	3-plate	19.3	249	1020
Chevy Corvette C6 (168-tooth FW)	56-807	3-plate	18.0	266	1020
Chevy Corvette C6 (153-tooth FW)*	56-819	3-plate	19.3	249	1020
Ford Mustang (1979 -2004)**	56-210	3-plate	13.7	117	720
Mitsubishi EVO 7-9	56-358	3-plate	20.8	262	1005
Mitsubishi EVO 10	56-357	3-plate	22.1	302	1005
Porsche 993/996/997	56-815	3-plate	17.8	210	1020
Porsche 993/996/997	56-813	2-plate	15.4	188	560
Porsche 993/996/997	57-813	5.5" 3-plate	14.5	151	750

* Includes 54-40012 starter for use with 153-tooth flywheel

** Includes TOB P/N 62-094 for use with OEM linkage. Require customer-supplied flexplate.

Service Components

Kit P/N	Clutch	Disc Pack	Flywheel	HRB	HRB Mount Adapter
56-816	66-003HG	64185-2-ACC-36	51-4452	60-8260	62-898
56-817	66-003HG	64185-2-ACC-36	51-4478	60-8260	62-898
56-804	66-003HG	64185-2-ACC-36	51-4452	60-8270	62-874
56-818	66-003HG	64185-2-ACC-36	51-4478	60-8270	62-874
56-807	66-003HG	64185-2-ACC-36	51-4452	60-8270	62-877
56-819	66-003HG	64185-2-ACC-36	51-4478	60-8270	62-877
56-210	66-003HBF	64185-2-ACC-05	19008	NA	NA
56-358	66-003UORA	64185-2-ACC-30	51-4334	61-9012	62-9900
56-357	66-003UORA	64185-2-ACC-30	51-4335	61-9012	62-9900
56-815	66-013HG	64185-3-VRR-30	51-4008	60-8250	62-882
56-813	66-012HORA	64185-3-VR-30	51-4008	60-8570	62-882
57-813	67-013HG	64140-3-ACC-30	51-4011	60-8340	62-882

Cerametallic Clutch Kits

Tilton cerametallic clutch kits are designed for racing and high-performance applications that require smoother clutch engagement characteristics than metallic clutches offer. These applications include rally, hill climb, club racing, off-road racing and street/strip. Utilizing .283" thick cerametallic discs, Tilton cerametallic clutch kits can withstand the higher temperatures generated during clutch modulation.

For further details regarding Tilton cerametallic clutches, please see page 14.

Application	Part Number	Plate Count	Weight (lbs)	MOI (lb-in²)	Torque Capacity
BMW E46*	56-820	1-plate	13.5	163	335
BMW E46*	56-821	2-plate	16.1	187	570
BMW E46 M3*	56-822	2-plate	16.1	187	570
Ford Mustang (1979 -2004)**	56-200	2-plate	12.0	106	480
Honda B16A/B18 (1992-on)	56-300H	2-plate	18.6	231	910
Honda B16A/B18 (1992-on) with HRB	56-300H-KIT	2-plate	18.6	231	910
Honda K20/K24	56-309	2-plate	14.9	178	910
Honda K20/K24 with HRB	56-309-KIT	2-plate	14.9	178	910
Mitsubishi EVO 7-9	56-353	2-plate	19.1	251	910
Mitsubishi EVO 10	56-356	2-plate	20.4	291	910
Porsche 993/996/997	56-812	2-plate	16.1	198	680
Subaru WRX/STI (2002-on)	56-371	2-plate	19.8	278	840

* Includes TOB for use with OEM linkage

** Includes TOB for use with OEM linkage. Require customer-supplied flexplate.

Service Components

Kit P/N	Clutch	Disc Pack	Flywheel	HRB	HRB Mount Adapter
56-820	66-301UORA	64185-8-W-10	51-3568	NA	NA
56-821	66-302UBF	64185-8-VV-10	51-3568	NA	NA
56-822	66-302UBF	64185-8-VV-52	51-3568	NA	NA
56-200	66-302HBF	64185-8-VV-05	19008	NA	NA
56-300H	66-302UGG	64185-8-VV-38	51-1166	NA	NA
56-300H-KIT	66-302UGG	64185-8-VV-38	51-1166	61-7770	NA
56-309	66-302UGG	64185-8-VV-38	51-1180	NA	NA
56-309-KIT	66-302UGG	64185-8-VV-38	51-1180	61-7770	NA
56-353	66-302UGG	64185-8-VW-30H	51-4334	61-9012	62-9900
56-356	66-302UGG	64185-8-VW-30H	51-4335	61-9012	62-9900
56-812	66-312HG	64185-8-VV-30	51-4008	60-8250	62-882
56-371	66-302UGG	64185-8-VV-47	51-4122	61-742	NA

Clutch Kits | Carbon/Carbon Clutch Kits

Tilton carbon/carbon clutch kits are designed for the most demanding racing and high-horsepower street/track applications. The 100% carbon matrix plates utilized in the clutch provide smooth and linear engagement characteristics, a high heat capacity that enables the clutch to slipped (modulated) without warping. In addition, carbon/carbon clutches have a very low weight and moment-of-inertia that improves shifting and provides fast engine acceleration.

For further details regarding Tilton carbon/carbon clutches, please see page 17.

Application	Part Number	Plate Count	Weight (lbs)	MOI (lb-in²)	Torque Capacity
Chevy Camaro GEN5 (168-tooth FW)	56-816C	3-plate	15.6	241	1230
Chevy Camaro GEN5 (153-tooth FW)*	56-817C	3-plate	17.0	230	1230
Chevy Corvette C5 (168-tooth FW)	56-805	3-plate	15.6	241	1230
Chevy Corvette C5 (153-tooth FW)*	56-818C	3-plate	17.0	230	1230
Chevy Corvette C6 (168-tooth FW)	56-808	3-plate	15.6	241	1230
Chevy Corvette C6 (153-tooth FW)*	56-819C	3-plate	17.0	230	1230
Honda B16A/B18 (1992-on)	56-302H	2-plate	16.0	205	910
Honda B16A/B18 (1992-on) with HRB	56-302H-KIT	2-plate	16.0	205	910
Honda K20/K24	56-311	2-plate	12.5	152	910
Honda K20/K24 with HRB	56-311-KIT	2-plate	12.5	152	910
Lamborghini Gallardo**	Contact Tilton	3-plate	25.4	364	1485
Mitsubishi EVO 7-9	56-352	2-plate	17.1	228	910
Mitsubishi EVO 10	56-355	2-plate	18.4	267	910
Porsche 993/996/997	56-814	3-plate	14.3	181	1230
Porsche 993/996/997	57-814	5.5" 3-plate	11.6	133	750
Subaru WRX/STI (2002-on)	56-372	2-plate	19.8	278	910
Toyota Supra MKIV***	Contact Tilton	3-plate	20.1	260	1365
Toyota Supra MKIV***	Contact Tilton	4-plate	21.7	270	1640

* Includes 54-40012 starter for use with 153-tooth flywheel

** Distributed exclusively by Dallas Performance and Underground Racing

*** Distributed exclusively by Titan Motorsports

Service Components

Kit P/N	Clutch	Flywheel	HRB	HRB Mount Adapter
56-816C	6573UGS-S	51-4452	60-8210	62-898
56-817C	6573UGS-S	51-4478	60-8210	62-898
56-805	6573UGS-S	51-4452	60-8220	62-874
56-818C	6573UGS-S	51-4478	60-8220	62-874
56-808	6573UGS-S	51-4452	60-8220	62-877
56-819C	6573UGS-S	51-4478	60-8220	62-877
56-302H	6572USGG-S-SDR	51-1166	NA	NA
56-302H-KIT	6572USGG-S-SDR	51-1166	61-7720	NA
56-311	6572USGG-S-SDR	51-1180	NA	NA
56-311-KIT	6572USGG-S-SDR	51-1180	61-7720	NA
Contact Tilton	6573MUSGGG-P	Contact Tilton	NA	NA
56-352	6572USGG-S-SDR	51-4334	61-9002	62-9900
56-355	6572USGG-S-SDR	51-4335	61-9002	62-9900
56-814	6573USG-P	51-4008	60-8200	62-880
57-814	6553HSG-P	51-4011	60-8330	62-882
56-372	6572USGG-S	51-4122	61-732	NA
Contact Tilton	6573USGG-S	51-5021	61-342	62-390
Contact Tilton	6574USG-S	51-5021	61-392	62-390

Driveline Packages

In 1992, Tilton Engineering introduced the concept of packaging matched components for use between the engine and transmission. The goal was to simplify the car-building and parts-ordering process. Prior to Tilton's introduction of the driveline package, race teams would spend considerable time sourcing components from various manufacturers. Many times, the various components would not function together properly.

Tilton driveline packages are engineered as a complete system. Each component is designed to work with all the others. As a result, Tilton driveline packages provide maximum performance, reliability and ease of installation. These fundamentals have made Tilton the choice of top race teams worldwide.

52-Series UTGC 5.5" Aluminum Packages

Bellhousing

- Rigid aluminum bellhousing resists flexing, allowing maximum power to be transferred to the wheels and minimized wear to driveline components.
- Blueprinted for parallelism and concentricity.

Clutch-Flywheel Assembly

- OT-III 5.5" 3-plate or 4-plate metallic and carbon/carbon clutch options provide race-proven performance and reliabilty.
- Billet steel 102-tooth (8.64") flywheel offers low inertia, precision balance and durability.

Hydraulic Release Bearing

- Aluminum body and piston.
- High temperature quad tensioner mono-seal ensures a leak resistant seal.
- Superior materials and proprietary low friction coatings provide longevity and consistency.
- High quality 38mm contact diameter bearing maximizes clutch modulation and provides reliable operation.

Super Starter

- Rear-mount 40000-Series (3.0 HP) Super Starter.

52-Series 7.25" Aluminum Packages

Bellhousing

- Rigid aluminum bellhousing resists flexing, allowing maximum power to be transferred to the wheels while minimizing wear to driveline components.
- Integral mounting "ears" with flanged inserts (for use as a rear engine mount).
- Bulkhead-mounted fittings for HRB lines.
- Provisions for cam-driven fuel pump.
- Blueprinted for parallelism and concentricity.

Clutch-Flywheel Assembly

- 7.25" OT-II metallic clutch assembly provides race-proven performance and reliability.
- Clutch discs feature 8-rivet hub design for maximum attachment strength.
- Billet steel 110-tooth (9.16") flywheel offers low inertia, precise balance and reliability.
- Clutch mounting studs provide high strength and simplified clutch installation/removal.

Hydraulic Release Bearing

- Billet aluminum body and piston.
- Built-in positive stop limits piston travel to prevent over-stroking of the clutch.
- High temperature quad tensioner mono-seal ensures a leak resistant seal.
- Superior materials and proprietary low friction coatings provide longevity and consistency.
- High-quality 44mm contact diameter bearing maximizes clutch modulation and provides reliable operation.

Super Starter

- Compact XLT (1.6 HP) Super Starter. 40000-Series (3.0 HP) Super Starter models are also available as an option. Contact Tilton for further information.
- Double Reduction Drop Gear design provides smooth engine cranking.
- Safety-wired fasteners.
- Reflective-type starter heat shield, designed to block radiant heat from exhaust headers, bolts directly to the starter (XLT only).

53-Series 7.25" Magnesium Packages

Bellhousing

- Rigid magnesium bellhousing resists flexing, allowing maximum power to be transferred to the wheels while minimizing wear to driveline components.
- Intergral mounting "ears" with flanged inserts (for use as a rear engine mount).
- Blueprinted for parallelism and concentricity

Clutch-Flywheel-Assembly

- 7.25" OT-II 3-plate or 4-plate metallic clutch provides race-proven performance and reliability.
- Billet steel 153-tooth (12.75") flywheel offer low inertia, precise balance and reliability.

Hydraulic Release Bearing

- Aluminum body and piston
- High temperature quad tensioner mono-seal ensures a leak resistant seal.
- Superior materials and proprietary low friction coatings provide longevity and consistency.
- High quality 44mm contact diameter bearing maximizes clutch modulation and reliable operation.

Super Starter

- Engine block mounted 40000-Series (3.0HP) starter.

Package | 52-Series UTGC 5.5"

Typical Applications

- Trans Am (TA, TA2)
- GT1
- Super Late Models
- Asphalt Modified

Packages include a bellhousing, clutch, flywheel, hydraulic release bearing, Super Starter and related hardware.

UTGC packages (part of the 52-Series line) are engineered to be the highest-performance rear-mount starter packages on the market. Designed to offer the most ground clearance possible, 52-Series UTGC packages offer an additional 2.2" of ground clearance over most OE bellhousings. The 102-tooth flywheel and 5.5" Tilton clutch included in these packages offer the lowest inertia possible in rear-mount starter packages of their type, providing quick engine acceleration and deceleration.

Note: All packages are designed for use with transmissions that have a Chevy bolt pattern and a 1 5/32" X 26 spline input shaft. Contact Tilton for other input shaft options.

Chevy V8 (2-piece rear main seal)	Part Numbers
5.5" 3-plate metallic clutch	**52-31130**
5.5" 3-plate metallic clutch	**52-31131***
5.5" 3-plate carbon clutch	**52-31230**
5.5" 4-plate metallic clutch	**52-31140**
5.5" 4-plate carbon clutch	**52-31240**

Chevy LS1/LS2/LS6/LS7	Part Numbers
5.5" 3-plate metallic clutch	**52-33130**
5.5"3-plate carbon clutch	**52-33230**
5.5" 4-plate metallic clutch	**52-33140**
5.5" 4-plate carbon clutch	**52-33240**

Ford Small Block Packages	Part Numbers
5.5" 3-plate metallic clutch	**52-32130**
5.5" 3-plate metallic clutch	**52-32131***
5.5" 3-plate carbon clutch	**52-32230**
5.5" 4-plate carbon clutch	**52-32140**
5.5" 4-plate carbon clutch	**52-32240**

Service Parts

Description	Part Number	Clutch	Disc Pack	Flywheel	HRB	Starter	Bellhousing
Chevy V8 (2-piece rear main seal)							
5.5" 3-plate metallic package	**52-31130**	67-003HG	64140-9-ABA-36	51-651	60-5340	54-41062	52-601
5.5" 3-plate metallic package*	**52-31131**	67-003HG	64140-9-ABA-36	51-685	60-5340	54-41062	52-601
5.5" 3-plate carbon package	**52-31230**	6553HSG-S	NA	51-651	60-5330	54-41062	52-601
5.5" 4-plate metallic package	**52-31140**	67-004HG	64140-9-ACCC-36	51-651	60-5310	54-41062	52-601
5.5" 4-plate carbon package	**52-31240**	6554HSG-S	NA	51-651	60-5300	54-41062	52-601
Chevy LS1/2/3/6/7							
5.5" 3-plate metallic package	**52-33130**	67-003HG	64140-9-ABA-36	51-659	60-5340	54-41062	52-601
5.5" 3-plate carbon package	**52-33230**	6553HSG-S	NA	51-659	60-5330	54-41062	52-601
5.5" 4-plate metallic package	**52-33140**	67-004HG	64140-9-ACCC-36	51-659	60-5310	54-41062	52-601
5.5" 4-plate carbon package	**52-33240**	6554HSG-S	NA	51-659	60-5300	54-41062	52-601
Ford Small Block							
5.5" 3-plate metallic package	**52-32130**	67-003HG	64140-9-ABA-36	51-653	60-5340	54-41062	52-602
5.5" 3-plate metallic package*	**52-32131**	67-003HG	64140-9-ABA-36	51-686	60-5340	54-41062	52-602
5.5" 3-plate carbon package	**52-32230**	6553HSG-S	NA	51-653	60-5330	54-41062	52-602
5.5" 4-plate metallic package	**52-32140**	67-004HG	64140-9-ACCC-36	51-653	60-5310	54-41062	52-602
5.5" 4-plate carbon package	**52-32240**	6554HSG-S	NA	51-653	60-5300	54-41062	52-602

* For use in applications with 1/4" mid-plate between engine & bellhousing.

Package | 52-Series 7.25"

Typical Applications

- Cup, Nationwide, Truck Series
- Road Racing
- Off-Road
- Drifting

52-Series 7.25" packages were originally designed specifically for use in the NASCAR "Car of Tomorrow," but are also suitable for other applications that require a 7.25" clutch and rear-mounted starter.

Note: All packages are designed for use with transmissions that have a Chevy bolt pattern and a 1 5/32" X 26 spline input shaft. Contact Tilton for other input shaft options.

Packages include a bellhousing, clutch, flywheel, hydraulic release bearing, Super Starter and related hardware.

Chevy (E) Packages*	Part Numbers
7.25" 3-plate clutch, 1 5/32" x 26 spline, XLT	**52-2001**
7.25" 3-plate clutch, 1 1/4" x 29 spline, XLT	**52-2002**

Chevy LS1/2/3/6/7 Packages	Part Numbers
7.25" 3-plate clutch, 1 5/32" x 26 spline, XLT	**52-2010**
7.25" 3-plate clutch, 1 1/4" x 29 spline, XLT	**52-2020**

Chevy R07 Packages	Part Numbers
7.25" 3-plate clutch, 1 5/32" x 26 spline, XLT	**52-2003**
7.25" 3-plate clutch, 1 1/4" x 29 spline, XLT	**52-2004**

Ford Small Block Packages	Part Numbers
7.25" 3-plate clutch, 1 5/32" x 26 spline, XLT	**52-2009**
7.25" 3-plate clutch, 1 1/4" x 29 spline, XLT	**52-2014**

Service Parts

Description	Part Number	Clutch	Disc Pack	Flywheel	HRB	Starter	Bellhousing
Chevy V8 (2-piece rear main seal)							
7.25" 3-plate metallic	**52-2001**	66-003HG	64185-4-VTV-36	51-6300	61-1602	54-61048	52-701
Chevy LS1/2/3/6/7							
7.25" 3-plate metallic	**52-2010**	66-003HG	64185-4-VTV-36	51-6341	61-1602	54-61048	52-701
Ford Small Block							
7.25" 3-plate metallic	**52-2009**	66-003HG	64185-4-VTV-36	51-6320	61-1602	54-61048	52-702

Photo courtesy of Fortin Racing

Package | 53-Series Magnesium

Typical Applications

- Drifting
- Road Racing
- Circle Track

53-Series Aluminum packages are designed for applications that require a full-size bellhousing, 153-tooth flywheel and front (engine) mounted starter.

Note: All packages are designed for use with transmissions that have a Chevy bolt pattern and a 1 5/32" X 26 spline input shaft. Contact Tilton for other input shaft options.

Packages include a bellhousing, clutch, flywheel, hydraulic release bearing, Super Starter and related hardware.

Chevy V8 (2-piece rear main seal)	Part Numbers
7.25" 3-plate metallic	**53-808**
7.25" 4-plate metallic	**53-809**

Chevy LS1/LS2/LS6/LS7	Part Numbers
7.25" 3-plate metallic	**53-810**
7.25" 4-plate metallic	**53-811**

Chevy LSX (8-bolt crank)	Part Numbers
7.25" 3-plate metallic	**53-812**
7.25" 4-plate metallic	**53-813**

Service Parts

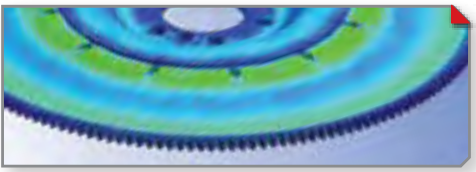
Description	Part Number	Clutch	Disc Pack	Flywheel	HRB	Starter	Bellhousing
Chevy V8 (2-piece rear main seal)							
7.25" 3-plate metallic	**53-808**	66-503HG	64185-2-ABA-36	51-021-1	60-5230	54-40001	53-601
7.25" 4-plate metallic	**53-809**	66-504HG	64185-2-ACCC-36	51-021-1	60-5200	54-40001	53-601
Chevy LS1/2/3/6/7							
7.25" 3-plate metallic	**53-810**	66-503HG	64185-2-ACC-36	51-4478	60-5260	54-40012	53-601
7.25" 4-plate metallic	**53-811**	66-504HG	64185-2-ACCC-36	51-4478	60-5230	54-40012	53-601
Chevy LSX (8-bolt crank)							
7.25" 3-plate metallic	**53-812**	66-503HG	64185-2-ACC-36	51-4479	60-5260	54-40012	53-601
7.25" 4-plate metallic	**53-813**	66-504HG	64185-2-ACCC-36	51-4479	60-5230	54-40012	53-601

Photo courtesy of Papadakis Racing

Flywheels

In 1973, Mac Tilton began manufacturing lightweight aluminum flywheels. As technology in racing advanced, and the demand for stronger and low-inertia flywheels grew, Tilton began machining flywheels from billet steel. Today, Tilton flywheels are subjected to some of the most grueling racing conditions. They can be found on NASCAR Cup engines, Grand Am DP cars competing in the 24 Hours of Daytona and most other forms of racing.

Tilton has engineered thousands of flywheels for racing and high performance applications. The flywheels listed on the following pages are our most popular flywheels. Tilton also produces flywheels for many specialty and historic car applications on a custom basis. Please contact Tilton for further information on ordering custom flywheels.



Engineered using Finite Element Analysis (FEA) to insure that strength and inertia are fully optimized.

Machined from high quality pre-heat-treated billet steel alloy for maximum strength, heat capacity and low inertia. Integrally cut ring gear for high reliability and reduced inertia.

Precision machined to tight tolerances for smooth engine operation and proper fitment.

Surface heat-treated after machining for maximum durability of the ring gear and clutch friction surface.

Quality assurance by automated Coordinate Measuring Machine (CMM) inspection ensures every dimension is accurate.

OE Diameter Flywheels

OE Diameter flywheels are designed to be a direct replacement for the stock flywheels of specific car/engine applications, retaining the same diameter (ring gear size) as originally equipped with the car.
Unless noted, flywheels are neutral balance and have a .100" step for the clutch's friction surface.

	Application	Clutch Diameter *(inches)*	Teeth Count *(number)*	Weight *(lbs)*	M.O.I. *(lb-in²)*	Part Numbers
OE Diameter	BMW M50/M52/S50/S52/S54	7.25"	113	7.9	111	**51-3568**
	Chevy V8 2-pc rear main seal	7.25"	153	8.3	164	**51-021-1**
	Chevy V8 LS1/2/3/6/7	7.25"	168	7.9	178	**51-4452**
	Honda B16A/B18	7.25"	112	9.8	155	**51-1166**
	Honda K20/K24	7.25"	120	6.3	102	**51-1180**
	Mitsubishi EVO 7-9	7.25"	114	10.9	175	**51-4334**
	Mitsubishi EVO 10	7.25"	114	9.4	142	**51-4335**
	Porsche 993/996/997	5.5"	132	7.2	111	**51-4011***
	Porsche 993/996/997	7.25"	132	7.9	122	**51-4008***
	Porsche 993/996/997	7.25"	132	18.5	346	**51-4012**
	Subaru WRX/STI	7.25"	124	11.6	202	**51-4122**
	Toyota Supra MKIV	7.25"	115	12.0	201	**51-5021**

* Pot-type (no step) flywheel

Button Flywheels

Designed to serve as the clutch's friction surface when used in conjunction with a flexplate.
Unless noted, flywheels are neutral balance and have a .100" step for the clutch's friction surface.

	Application	Clutch Diameter *(inches)*	Teeth Count *(number)*	Weight *(lbs)*	M.O.I. *(lb-in²)*	Part Numbers
Button	Chevy V8 2-pc rear main seal	5.5"	N/A	2.1	11.5	**19002**
	Chevy V8 2-pc rear main seal	7.25"	N/A	3.6	31.0	**19003**
	Chevy V8 1-pc rear main seal	5.5"	N/A	2.5	12.3	**19010**
	Chevy V8 1-pc rear main seal	7.25"	N/A	3.8	30.7	**19011**
	Ford Small Block V8	7.25"	N/A	3.8	29.5	**19008**

7.25" Rear-mount Starter Package Flywheels

Designed for use in Tilton 52-series 7.25" Rear-mount Starter bellhousings.

Unless noted, flywheels are neutral balance and have a .100" step for the clutch's friction surface.

	Application	Clutch Diameter (inches)	Teeth Count (number)	Weight (lbs)	M.O.I. ($lb\text{-}in^2$)	Part Numbers
7.25" Rear-mount	Chevy V8 2-pc rear main seal	7.25"	110	4.7	52	**51-6300**
	Chevy V8 LS1/2/3/6/7	7.25"	110	5.7	61	**51-6341**
	Ford Small Block V8	7.25"	110	4.9	52	**51-6320**
	Ford Small Block V8	7.25"	110	6.5	70	**51-6322***
	TRD V8	7.25"	110	6.4	68	**51-6334****

* Pot-type (no step) flywheel. For use with 1/2" mid-plate

** For use with 1/2" mid-plate

5.5" Rear-mount Starter Package Flywheels

Designed for use in Tilton 52-series UTGC or Sonic Rear-mount Starter bellhousings.

Unless noted, flywheels are neutral balance and have a .100" step for the clutch's friction surface.

	Application	Clutch Diameter (inches)	Teeth Count (number)	Weight (lbs)	M.O.I. ($lb\text{-}in^2$)	Part Numbers
5.5" Rear-mount	Chevy V8 2-pc rear main seal	5.5"	102	3.1	27	**51-651**
	Chevy V8 2-pc rear main seal	5.5"	102	3.3	28	**51-685***
	Chevy V8 LS1/2/3/6/7	5.5"	102	4.3	35	**51-659**
	Ford Small Block V8	5.5"	102	3.6	28	**51-653**
	Ford Small Block V8	5.5"	102	3.9	29	**51-686***

* For use with ¼" mid-plate applications

Specialty Application Flywheels

Designed for use in special applications that do not fit any of the categories listed above.

Unless noted, flywheels are neutral balance and have a .100" step for the clutch's friction surface.

	Application	Clutch Diameter (inches)	Teeth Count (number)	Weight (lbs)	M.O.I. ($lb\text{-}in^2$)	Part Numbers
Specialty	Chevy V8 2-pc rear main seal	7.25"	104	5.7	77	**51-052-1***
	Chevy LS1/2/3/6/7	7.25"	153	9.4	142	**51-4478****
	Chevy LSX/LT1/LT4	7.25"	153	9.4	142	**51-4479****

* Requires starter P/N 54-40005

** Require starter P/N 54-40012

Hydraulic Release Bearings (HRBs)

Tilton offers a wide range of hydraulic release bearings (HRBs) for use with push-type clutches. Hydraulic release bearings are available for use with smaller-diameter racing clutches (4.5", 5.5", & 7.25") and most OE-type clutches.

Tilton hydraulic release bearings are designed to eliminate the need for mechanical linkages, pivot balls, spacers and external slave cylinders.

Modulation and release travel can be adjusted by changing master cylinder bore size and/or clutch pedal ratio. Most Tilton hydraulic release bearing assemblies have a total of .700" of piston travel.

Unique mono-seal technology featuring high-temperature materials and a quad-tensioner.

Constant-contact design allows for consistent pedal feel and all Tilton release bearings are self adjusting.

Proprietary coatings ensure long-lasting durability in the high-demand racing environment.

Long-life, high-quality bearings are used in every Tilton hydraulic release bearing.

Mono-Seal Technology

Tilton's unique mono-seal technology is incorporated into all hydraulic release bearings. The high temperature mono-seal features a quad tensioner to ensure proper seal tension. Seals have been tested to hundreds of thousands of actuations without failure. Tilton hydraulic release bearings feature a wiper seal to provide protection from debris entering the bore.

Constant-Contact & Self Adjusting Design

The constant-contact design of Tilton hydraulic release bearings maintains pedal feel even as the clutch wears. In addition, Tilton hydraulic release bearings self-adjust for clutch wear.

Proprietary Coatings

Tilton hydraulic release bearings feature superior materials and proprietary low friction coatings, providing longevity and consistency.

High Quality Bearings

Tilton hydraulic release bearing assemblies feature high-quality bearings to provide smooth and reliable operation.

All Tilton hydraulic release bearings, except 9000-Series, have 1.215 in^2 of piston area.

The table below lists recommended master cylinder bore sizes for use with Tilton hydraulic release bearings:

Clutch Size & Type	Bearing Contact Diameter	Recommended M/C Bore Size
4.5" - 5.5" Tilton	1.50" (38mm)	5/8" (15.9mm)
7.25" Tilton	1.73" (44mm)	3/4" (19.1mm)
8.5" Tilton; 4.5" - 7.25" (non-Tilton)	2.05" (52mm)	3/4" (19.1mm)
8.5" - 11" Bent Finger & Lever-Type	1.68" - 3.03" (47mm - 77mm)	7/8" (22.2 mm)

HRB 700-Series

Low profile hydraulic release bearing

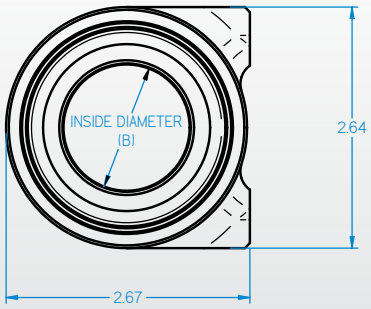
Mount:	**Slip fit onto 1.375" (35mm) pilot tube**
Body & Piston Material:	**Billet aluminum**
Piston Area:	**1.215 in² (788mm²)**
Max Stroke:	**.500" (12.7mm)**
Ports:	**AN-3 (3/8"-24)**
Weight:	**.70 lbs** *(varies by p/n)*
Included in kit:	**AN-3 steel braided line (90") and related fittings**

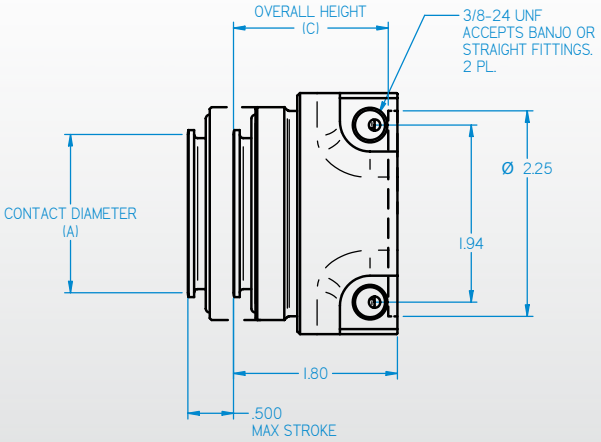
Typical Applications

- Slip fit over transaxle pilot tube

Reference Drawing

Clutch Type	Contact Diameter	Inside Diameter	Overall Height	Stroke	Part Numbers
diameter / brand	*Dimension (A)*	*Dimension (B)*	*Dimension (C)*	*(in/mm)*	
7.25" Tilton	1.73" (44mm)	1.38" (35.1mm)	1.64" (41.7mm)	.500" (12.7mm)	**61-772**
7.25" Tilton	1.73" (44mm)	1.38" (35.1mm)	1.70" (43.2mm)	.500" (12.7mm)	**61-777**





INSTALLATION NOTES:

1. USE ONLY WITH DOT-3 OR DOT-4 BRAKE FLUID.
2. NO INTERNAL TRAVEL LIMITER. MUST BE USED WITH CLUTCH PEDAL STOP.
3. SEAL REBUILD KIT = 62-905.
4. SEAL INSTALLATION TOOL = 96-002.
5. HYDRAULIC AREA = 1.221 SQ IN.
6. ACCEPTS BANJO OR STRAIGHT FITTINGS

HRB | 1XXX-Series

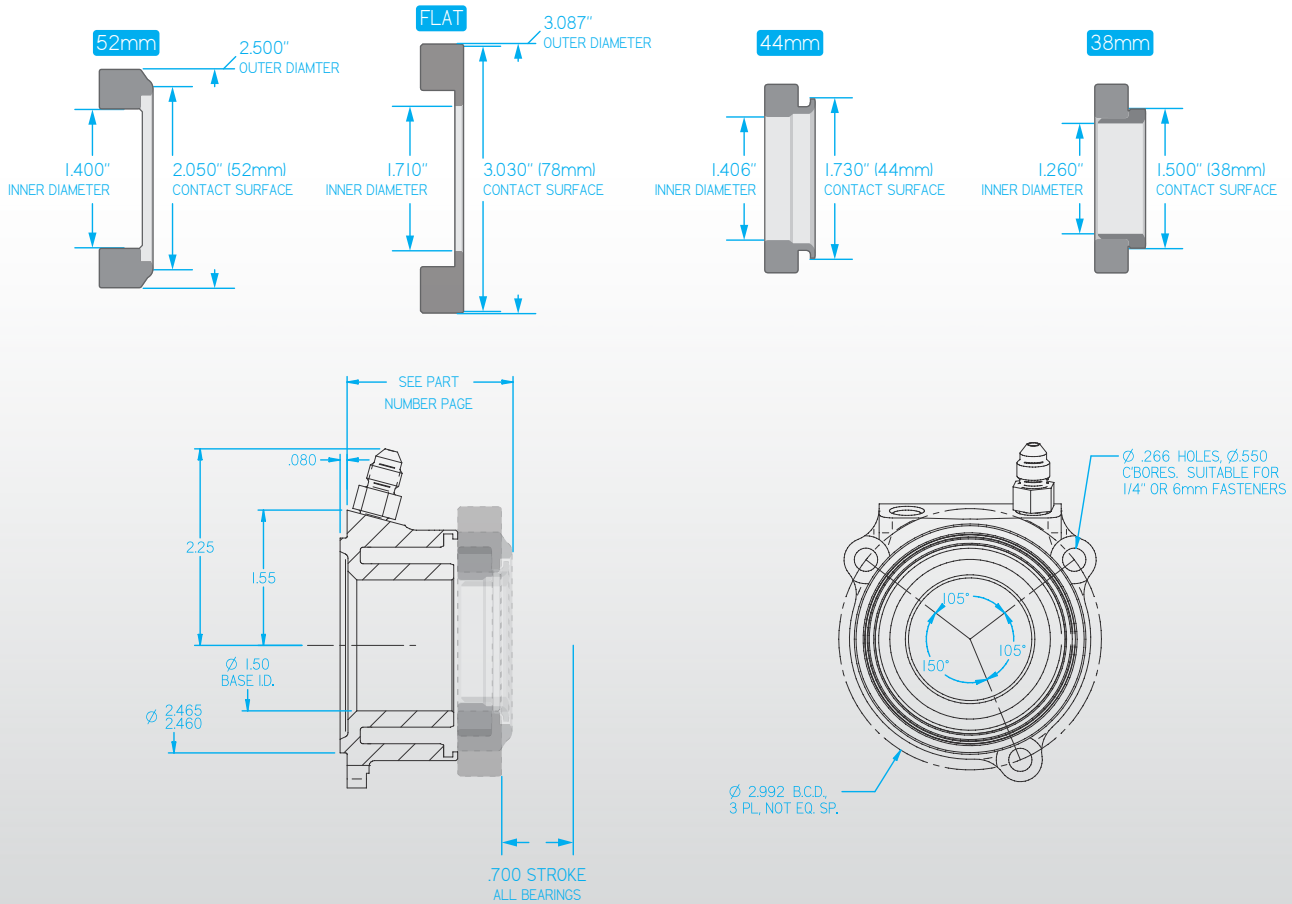
Flush mount "Saab-type" release bearing

Mount:	**3-bolt “Saab-type” pattern**
Body & Piston Material:	**Billet aluminum**
Piston Area:	**1.215 in² (784mm²)**
Max Stroke:	**.700" (17.8 mm)**
Ports:	**AN-3 (3/8"-24)**
Included in kit:	**AN-3 fittings (2)**

Typical Applications

- Fits many popular racing transmissions designed to accept 3-bolt pattern “Saab-type” hydraulic release bearings.

Reference Drawing



HRB Details

1000-Series

Contact: **2.05" (52mm)**
Type: **Radius-face bearing**
Weight: **.85 lbs**
Application: **5.5" - 8.5" clutches**

52mm

Part Number	Overall Height
60-1000	2.04" (51.8mm)

1100-Series

Contact: **1.71" – 3.03" (43.4mm – 77.0mm)**
Type: **Flat-face bearing**
Weight: **.95 lbs**
Application: **8.5" - 11.0" bent finger clutches**

Flat-Faced

Part Number	Overall Height
60-1100	1.79" (45.5mm)

12XX-Series

Contact: **1.75" (44mm)**
Type: **Radius-face bearing**
Weight: **.70 lbs** *(varies by p/n)*
Application: **5.5" - 7.25" clutches**

44mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-1200	1.87" (47.5mm)	1.82" (46.2mm)
60-1210	1.97" (50.0mm)	1.92" (48.8mm)
60-1220	2.07" (52.3mm)	2.02" (51.3mm)
60-1230	2.17" (55.1mm)	2.12" (53.8mm)
60-1240	2.27" (57.7mm)	2.22" (56.4mm)
60-1250	2.37" (60.2mm)	2.32" (58.9mm)
60-1260	2.47" (62.7mm)	2.42" (61.5mm)
60-1270	2.57" (65.3mm)	2.52" (64.0mm)
60-1280	2.67" (67.8mm)	2.62" (66.5mm)
60-1290	2.77" (70.4mm)	2.72" (69.0mm)

13XX-Series

Contact: **1.50" (38mm)**
Type: **Radius-face bearing**
Weight: **.75 lbs** *(varies by p/n)*
Application: **4.5" - 5.5" clutches**

38mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-1300	1.87" (47.5mm)	1.82" (46.2mm)
60-1310	1.97" (50.0mm)	1.92" (48.8mm)
60-1320	2.07" (52.3mm)	2.02" (51.3mm)
60-1330	2.17" (55.1mm)	2.12" (53.8mm)
60-1340	2.27" (57.7mm)	2.22" (56.4mm)
60-1350	2.37" (60.2mm)	2.32" (58.9mm)
60-1360	2.47" (62.7mm)	2.42" (61.5mm)
60-1370	2.57" (65.3mm)	2.52" (64.0mm)
60-1380	2.67" (67.8mm)	2.62" (66.5mm)
60-1390	2.77" (70.4mm)	2.72" (69.0mm)

HRB comes from Tilton factory with shim installed in piston under the bearing. Shim can be removed by customer to gain .050" (1.3mm) additional clearance.

HRB | 3XXX-Series

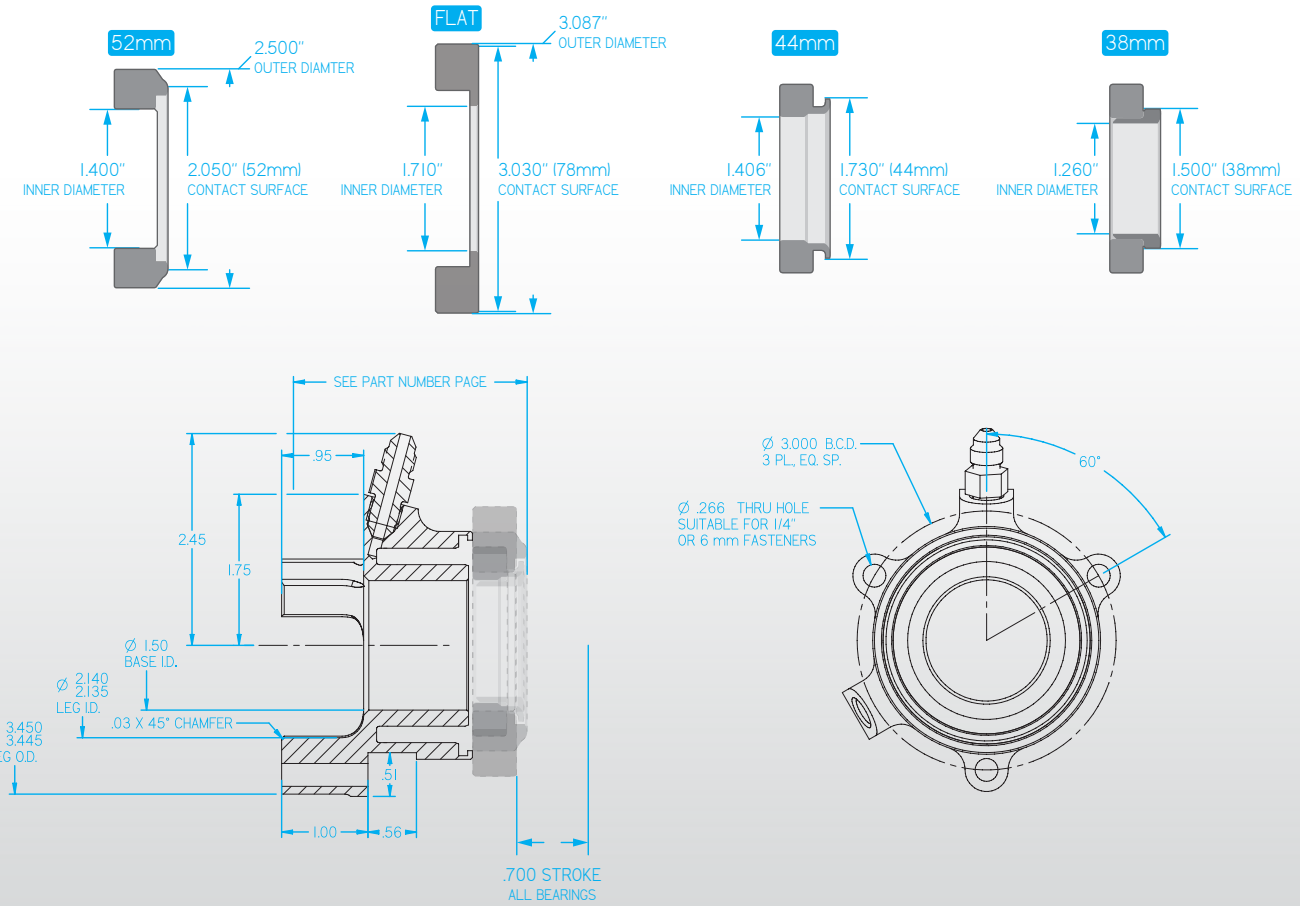
3-leg hydraulic release bearing

Mount:	**3-bolt pattern**
Body & Piston Material:	**Billet aluminum**
Piston Area:	**1.215 in² (788mm²)**
Max Stroke:	**.700" (17.8mm)**
Ports:	**AN-3 (3/8"-24)**
Included in kit:	**AN-3 fittings (2)**

Typical Applications

- Bulkhead-mounted inside transmissions or bellhousings

Reference Drawing



HRB Details

3000-Series

Contact: **2.05" (52mm)**
Type: **Radius-face bearing**
Weight: **.90 lbs**
Application: **5.5" - 8.5" clutches**

52mm

Part Number	Overall Height
60-3000	3.00" (76.2mm)

3100-Series

Contact: **1.71" – 3.03" (43.4mm – 77.0mm)**
Type: **Flat-face bearing**
Weight: **1.00 lbs**
Application: **8.5" - 11.0" bent finger clutches**

Flat-Faced

Part Number	Overall Height
60-3100	2.74" (69.6mm)

32XX-Series

Contact: **1.75" (44mm)**
Type: **Radius-face bearing**
Weight: **.75 lbs** *(varies by p/n)*
Application: **5.5" - 7.25" clutches**

44mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-3200	2.82" (71.6mm)	2.77" (70.4mm)
60-3210	2.92" (74.2mm)	2.87" (72.9mm)
60-3220	3.02" (76.7mm)	2.97" (75.4mm)
60-3230	3.12" (79.2mm)	3.07" (78.0mm)
60-3240	3.22" (81.8mm)	3.17" (80.5mm)
60-3250	3.32" (84.3mm)	3.27" (83.1mm)
60-3260	3.42" (86.9mm)	3.37" (85.6mm)
60-3270	3.52" (89.4mm)	3.47" (88.1mm)
60-3280	3.62" (91.9mm)	3.57" (90.7mm)
60-3290	3.72" (94.5mm)	3.67" (93.2mm)

33XX-Series

Contact: **1.50" (38mm)**
Type: **Radius-face bearing**
Weight: **.80 lbs** *(varies by p/n)*
Application: **4.5" - 5.5" clutches**

38mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-3300	2.82" (71.6mm)	2.77" (70.4mm)
60-3310	2.92" (74.2mm)	2.87" (72.9mm)
60-3320	3.02" (76.7mm)	2.97" (75.4mm)
60-3330	3.12" (79.2mm)	3.07" (78.0mm)
60-3340	3.22" (81.8mm)	3.17" (80.5mm)
60-3350	3.32" (84.3mm)	3.27" (83.1mm)
60-3360	3.42" (86.9mm)	3.37" (85.6mm)
60-3370	3.52" (89.4mm)	3.47" (88.1mm)
60-3380	3.62" (91.9mm)	3.57" (90.7mm)
60-3390	3.72" (94.5mm)	3.67" (93.2mm)

HRB comes from Tilton factory with shim installed in piston under the bearing. Shim can be removed by customer to gain .050" (1.3mm) additional clearance.

HRB | 4XXX-Series

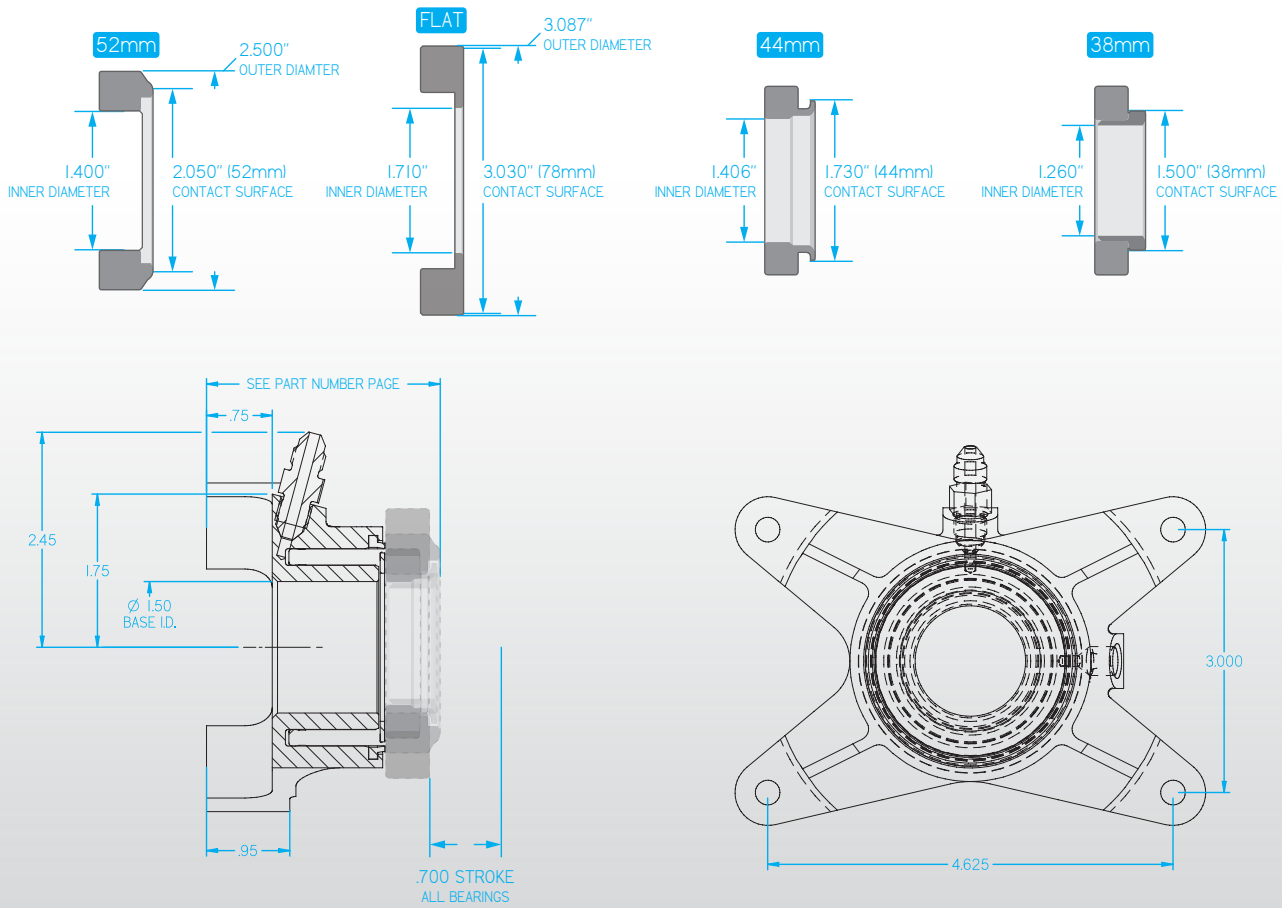
4-leg hydraulic release bearing

Mount:	**4-bolt pattern**
Body & Piston Material:	**Aluminum**
Piston Area:	**1.215 in² (788mm²)**
Max Stroke:	**.700" (17.8mm)**
Ports:	**AN-3 (3/8"-24)**
Included in kit:	**AN-3 fittings (2)**

Typical Applications

- Bulkhead-mounted inside transmissions or bellhousings

Reference Drawing



HRB Details

4000-Series

Contact: **2.05" (52mm)**
Type: **Radius-face bearing**
Weight: **1.30 lbs**
Application: **5.5" - 8.5" clutches**

52mm

Part Number	Overall Height
60-4000	2.80" (71.0mm)

4100-Series

Contact: **1.71" – 3.03" (43.4mm – 77.0mm)**
Type: **Flat-face bearing**
Weight: **1.45 lbs**
Application: **8.5" - 11.0" bent finger clutches**

Flat-Faced

Part Number	Overall Height
60-4100	2.54" (64.5mm)

42XX-Series

Contact: **1.75" (44mm)**
Type: **Radius-face bearing**
Weight: **1.15 lbs** *(varies by p/n)*
Application: **5.5" - 7.25" clutches**

44mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-4200	2.62" (66.5mm)	2.57" (65.3mm)
60-4210	2.72" (69.0mm)	2.67" (67.8mm)
60-4220	2.82" (71.6mm)	2.77" (70.4mm)
60-4230	2.92" (74.2mm)	2.87" (72.9mm)
60-4240	3.02" (76.7mm)	2.97" (75.4mm)
60-4250	3.12" (79.2mm)	3.07" (78.0mm)
60-4260	3.22" (81.8mm)	3.17" (80.5mm)
60-4270	3.32" (84.3mm)	3.27" (83.0mm)
60-4280	3.42" (86.9mm)	3.37" (85.6mm)
60-4290	3.52" (89.4mm)	3.47" (88.1mm)

43XX-Series

Contact: **1.50" (38mm)**
Type: **Radius-face bearing**
Weight: **1.20 lbs** *(varies by p/n)*
Application: **4.5" - 5.5" clutches**

38mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-4300	2.62" (66.5mm)	2.57" (65.3mm)
60-4310	2.72" (69.0mm)	2.67" (67.8mm)
60-4320	2.82" (71.6mm)	2.77" (70.4mm)
60-4330	2.92" (74.2mm)	2.87" (72.9mm)
60-4340	3.02" (76.7mm)	2.97" (75.4mm)
60-4350	3.12" (79.2mm)	3.07" (78.0mm)
60-4360	3.22" (81.8mm)	3.17" (80.5mm)
60-4370	3.32" (84.3mm)	3.27" (83.0mm)
60-4380	3.42" (86.9mm)	3.37" (85.6mm)
60-4390	3.52" (89.4mm)	3.47" (88.1mm)

HRB comes from Tilton factory with shim installed in piston under the bearing. Shim can be removed by customer to gain .050" (1.3mm) additional clearance.

HRB | 5XXX-Series

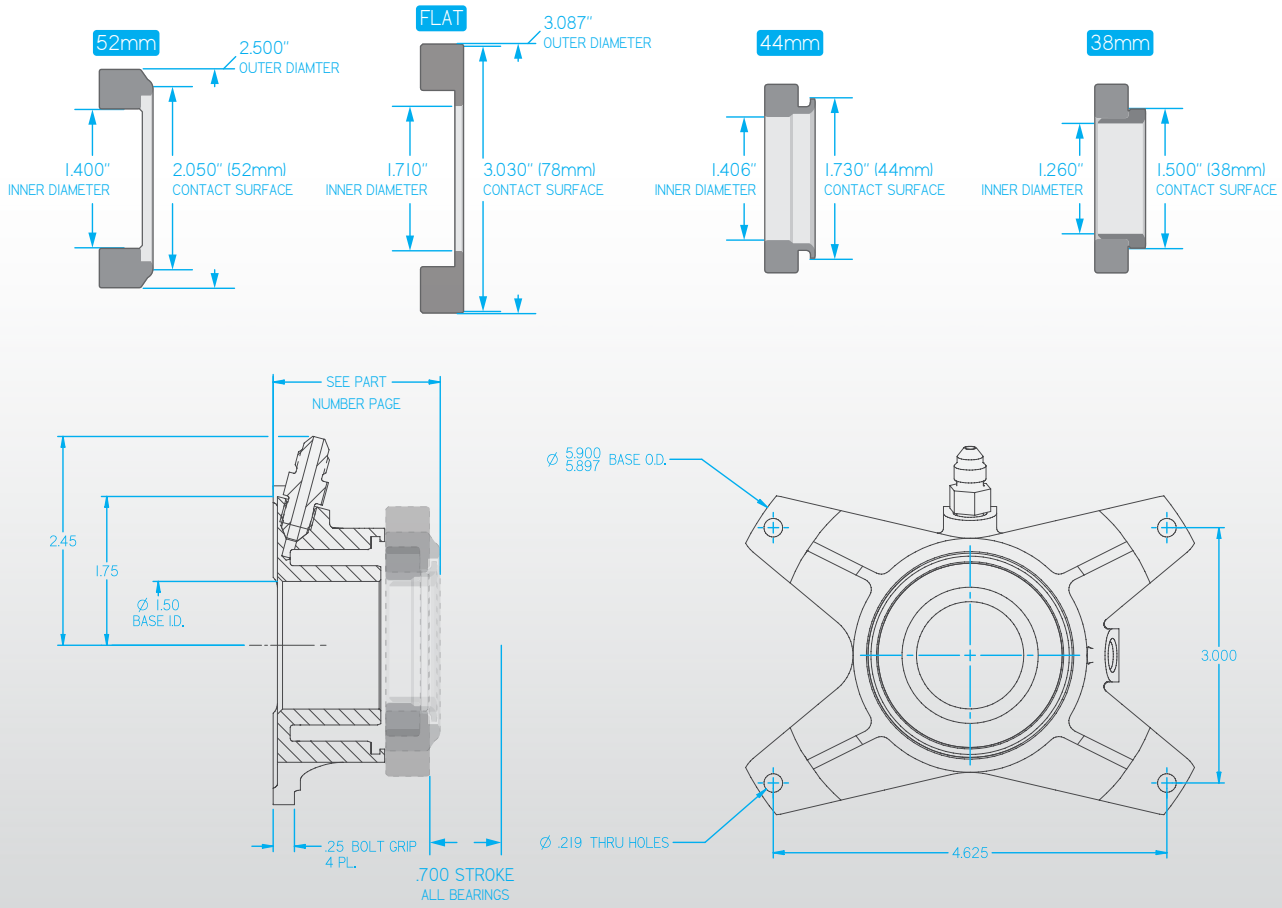
4-leg hydraulic release bearing

Mount:	**4-bolt pattern**
Body & Piston Material:	**Aluminum**
Piston Area:	**1.215 in² (788mm²)**
Max Stroke:	**.700" (17.8mm)**
Ports:	**AN-3 (3/8"-24)**
Included in kit:	**AN-3 fittings (2)**

Typical Applications

- Bulkhead-mounted inside transmissions or bellhousings

Reference Drawing



HRB Details

52XX-Series

Contact: **1.75" (44mm)**
Type: **Radius-face bearing**
Weight: **.95 lbs** *(varies by p/n)*
Application: **5.5" - 7.25" clutches**

44mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-5200	1.92" (48.8mm)	1.87" (47.5mm)
60-5210	2.02" (51.3mm)	1.97" (50.0mm)
60-5220	2.12" (53.8mm)	2.07" (52.6mm)
60-5230	2.22" (56.4mm)	2.17" (55.1mm)
60-5240	2.32" (58.9mm)	2.27" (57.7mm)
60-5250	2.42" (61.5mm)	2.37" (60.2mm)
60-5260	2.52" (64.0mm)	2.47" (62.7mm)
60-5270	2.62" (66.5mm)	2.57" (65.3mm)
60-5280	2.72" (69.1mm)	2.67" (67.8mm)
60-5290	2.82" (71.6mm)	2.77" (70.4mm)

53XX-Series

Contact: **1.50" (38mm)**
Type: **Radius-face bearing**
Weight: **.95 lbs** *(varies by p/n)*
Application: **4.5" - 5.5" clutches**

38mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-5300	1.92" (48.8mm)	1.87" (47.5mm)
60-5310	2.02" (51.3mm)	1.97" (50.0mm)
60-5320	2.12" (53.8mm)	2.07" (52.6mm)
60-5330	2.22" (56.4mm)	2.17" (55.1mm)
60-5340	2.32" (58.9mm)	2.27" (57.7mm)
60-5350	2.42" (61.5mm)	2.37" (60.2mm)
60-5360	2.52" (64.0mm)	2.47" (62.7mm)
60-5370	2.62" (66.5mm)	2.57" (65.3mm)
60-5380	2.72" (69.1mm)	2.67" (67.8mm)
60-5390	2.82" (71.6mm)	2.77" (70.4mm)

HRB comes from Tilton factory with shim installed in piston under the bearing. Shim can be removed by customer to gain .050" (1.3mm) additional clearance.

HRB 6000-Series

Adjustable length hydraulic release bearing

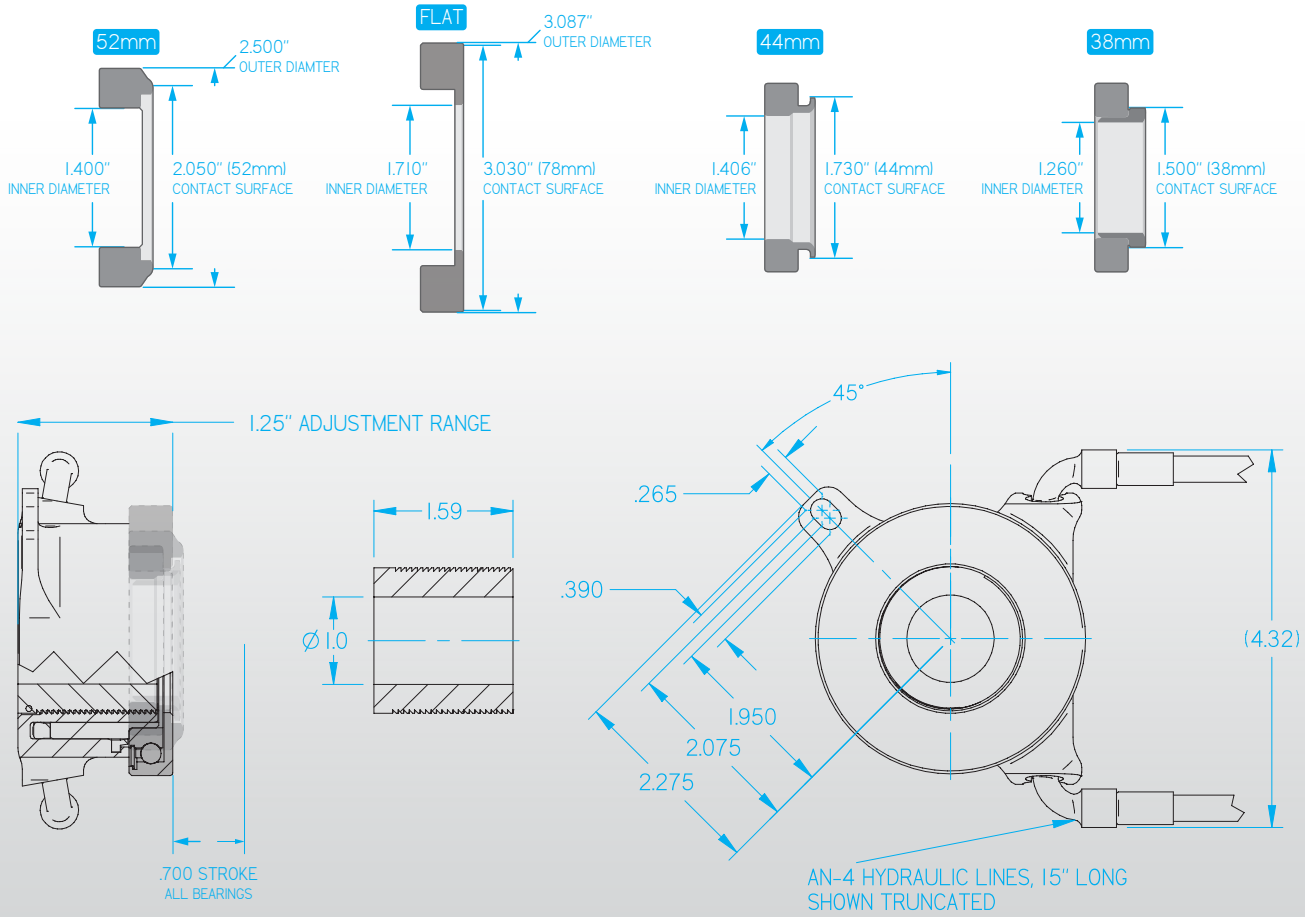
Mount:	**Transmission**
Body & Piston Material:	**Billet aluminum**
Piston Area:	**1.215 in² (788mm²)**
Max Stroke:	**.700" (17.8mm)**
Ports:	**AN-4 (7/16"-20)**
Included in kit:	**Braided lines & bleed fitting**

6000-Series Hydraulic Release Bearing features Tilton race-proven reliability for the street. These hydraulic release bearings have been designed for ease of installation and maximum reliability at a very competitive price. 6000-Series HRBs feature a stainless steel threaded bearing retainer-mount sleeve that offers nearly 1.25" of adjustability.
Available for popular transmission models.

Typical Applications

- Adjustable hydraulic release bearing that is designed to mount onto transmission input shaft bearing retainer.

Reference Drawing



HRB Details

	Contact Surface	Type of Bearing	Application
6000-Series	**2.05" (52mm)**	**Radius-face**	**5.5" - 8.5" clutches**
	Application	Transmission	Part Number
	Ford	Tremec TKO/500/600	60-6032
	Ford	Tremec T56 Magnum (P/N TUET11010)	60-6034
	Ford	Topload (1 1/6" X 10 input shaft)	60-6032
	Ford	T-5	60-6034
	GM	Tremec TKO/500/600	60-6036
	GM/Dodge/Ford	Tremec T56 Magnum (except P/N TUET11010)	60-6035
	GM	T-5	60-6033
	Universal*	Universal	60-6000
6100-Series	**1.71" - 3.03" (43.4mm - 77.0mm)**	**Flat-face**	**8.5"-10.5" bent-finger clutches**
	Application	**Transmission**	**Part Number**
	Ford	Tremec TKO/500/600	60-6102
	Ford	Tremec T56 Magnum (P/N TUET11010)	60-6104
	Ford	Topload (1 1/6" X 10 input shaft)	60-6102
	Ford	T-5	60-6104
	GM	Tremec TKO/500/600	60-6106
	GM/Dodge/Ford	Tremec T56 Magnum (except P/N TUET11010)	60-6105
	GM	T-5	60-6103
	Universal*	Universal	60-6100
6200-Series	**1.75" (44mm)**	**Radius-face**	**5.5" - 7.25" clutches**
	Application	**Transmission**	**Part Number**
	Ford	Tremec TKO/500/600	60-6232
	Ford	Tremec T56 Magnum (P/N TUET11010)	60-6234
	Ford	Topload (1 1/6" X 10 input shaft)	60-6232
	Ford	T-5	60-6234
	GM	Tremec TKO/500/600	60-6236
	GM/Dodge/Ford	Tremec T56 Magnum (except P/N TUET11010)	60-6235
	GM	T-5	60-6233
	Universal*	Universal	60-6200
6300-Series	**1.50" (38mm)**	**Radius-face**	**4.5" - 5.5" clutches**
	Application	**Transmission**	**Part Number**
	Ford	Tremec TKO/500/600	60-6332
	Ford	Tremec T56 Magnum (P/N TUET11010)	60-6334
	Ford	Topload (1 1/6" X 10 input shaft)	60-6332
	Ford	T-5	60-6334
	GM	Tremec TKO/500/600	60-6336
	GM/Dodge/Ford	Tremec T56 Magnum (except P/N TUET11010)	60-6335
	GM	T-5	60-6333
	Universal*	Universal	60-6300

* Adjustment sleeve has a 1.00" pilot hole that customer can bore (up to 1.437") to suit customer applications. Does not include anti-rotation stud.

HRB | 8XXX-Series

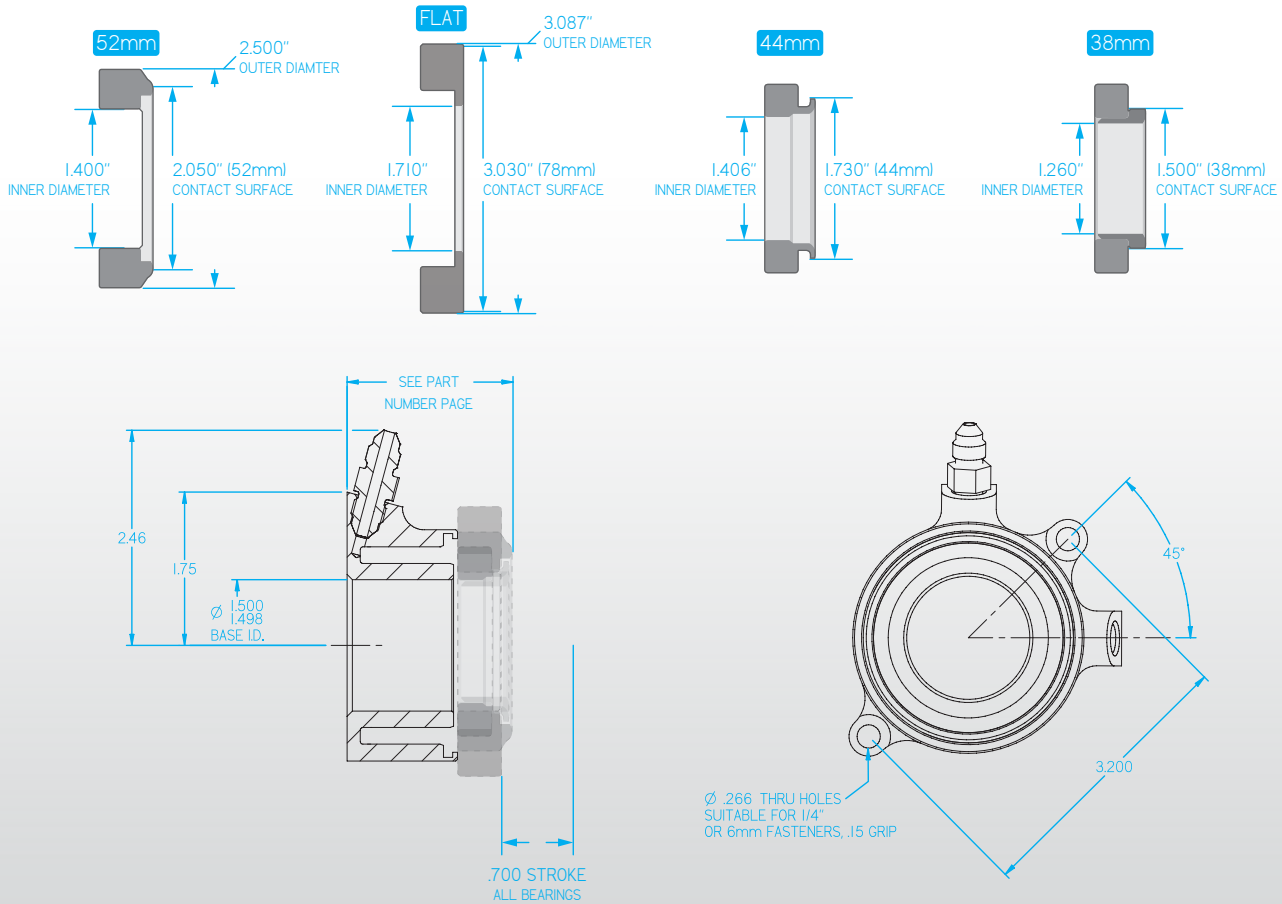
Low-profile hydraulic release bearing

Mount:	**2-bolt pattern**
Body & Piston Material:	**Billet aluminum**
Piston Area:	**1.215 in² (788mm²)**
Max Stroke:	**.700" (17.8mm)**
Ports:	**AN-3 (3/8"-24)**
Included in kit:	**AN-3 fittings (2)**

Typical Applications

- Bulkhead-mounted inside transmissions or bellhousings

Reference Drawing



HRB Details

8000-Series

Contact: **2.05" (52mm)**
Type: **Radius-face bearing**
Weight: **.85 lbs**
Application: **5.5" - 8.5" clutches**

52mm

Part Number	Overall Height
60-8000	2.05" (52.0mm)

8100-Series

Contact: **1.71" – 3.03" (43.4mm – 77.0mm)**
Type: **Flat-face bearing**
Weight: **.95 lbs**
Application: **8.5" - 11.0" bent finger clutches**

Flat-Faced

Part Number	Overall Height
60-8100	1.79" (45.5mm)

82XX-Series

Contact: **1.75" (44mm)**
Type: **Radius-face bearing**
Weight: **.70 lbs** *(varies by p/n)*
Application: **5.5" - 7.25" clutches**

44mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-8200	1.87" (47.5mm)	1.82" (46.2mm)
60-8210	1.97" (50.0mm)	1.92" (48.8mm)
60-8220	2.07" (52.3mm)	2.02" (51.3mm)
60-8230	2.17" (55.1mm)	2.12" (53.8mm)
60-8240	2.27" (57.7mm)	2.22" (56.4mm)
60-8250	2.37" (60.2mm)	2.32" (58.9mm)
60-8260	2.47" (62.7mm)	2.42" (61.5mm)
60-8270	2.57" (65.3mm)	2.52" (64.0mm)
60-8280	2.67" (67.8mm)	2.62" (66.5mm)
60-8290	2.77" (70.4mm)	2.72" (69.0mm)

83XX-Series

Contact: **1.50" (38mm)**
Type: **Radius-face bearing**
Weight: **.75 lbs** *(varies by p/n)*
Application: **4.5" - 5.5" clutches**

38mm

Part Numbers	Overall Height	
	with shim	*without shim*
60-8300	1.87" (47.5mm)	1.82" (46.2mm)
60-8310	1.97" (50.0mm)	1.92" (48.8mm)
60-8320	2.07" (52.3mm)	2.02" (51.3mm)
60-8330	2.17" (55.1mm)	2.12" (53.8mm)
60-8340	2.27" (57.7mm)	2.22" (56.4mm)
60-8350	2.37" (60.2mm)	2.32" (58.9mm)
60-8360	2.47" (62.7mm)	2.42" (61.5mm)
60-8370	2.57" (65.3mm)	2.52" (64.0mm)
60-8380	2.67" (67.8mm)	2.62" (66.5mm)
60-8390	2.77" (70.4mm)	2.72" (69.0mm)

HRB comes from Tilton factory with shim installed in piston under the bearing. Shim can be removed by customer to gain .050" (1.3mm) additional clearance.

HRB 9000-Series

Reduced piston area hydraulic release bearing

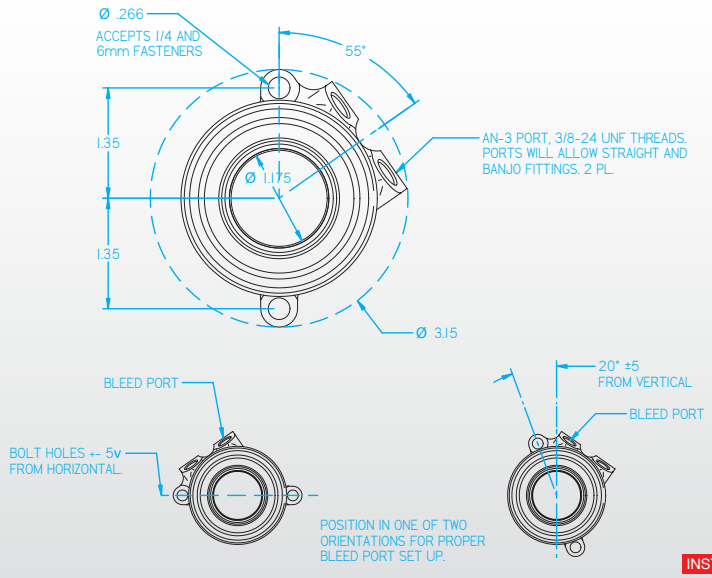
Mount:	**2-bolt**
Body & Piston Material:	**Billet aluminum**
Piston Area:	**.93 in² (600mm²)**
Max Stroke:	**.600" (15.2mm)**
Ports:	**AN-3 (3/8"-24)**
Weight:	**.56 lbs** *(varies by p/n)*
Included in kit:	**Supply and bleed port fittings**

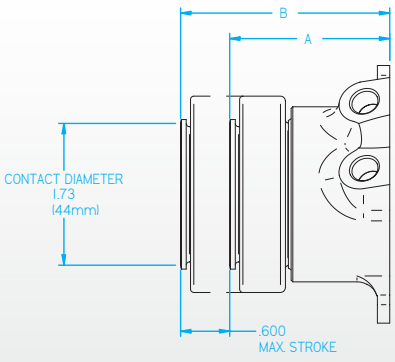
Typical Applications

- Applications that require a hydraulic release bearing with a reduced piston area, enabling the use of a 5/8" master cylinder (OE in many production cars) with a 7.25" clutch. Mounts onto transmission/ bellhousing (typically with an adapter).

Reference Drawing

Clutch Type	Contact Diameter	Inside Diameter	Overall Height	Stroke	Part Numbers
diameter / brand	*Dimension (A)*	*Dimension (B)*	*Dimension (C)*	*(in/mm)*	
7.25" Tilton	1.73" (44mm)	1.18" (30.0mm)	1.95" (49.5mm)	.600"/15.2mm	**61-9002**
7.25" Tilton	1.73" (44mm)	1.18" (30.0mm)	2.02" (51.3mm)	.600"/15.2mm	**61-9012**





PART NUMBER	SET UP HEIGHT "A"	EXTENDED HEIGHT "B"
61-9002	1.95	2.55
61-9012	2.02	2.67

INSTALLATION NOTES:

1. USE ONLY WITH DOT-3 OR DOT-4 BRAKE FLUID.
2. NO INTERNAL TRAVEL LIMITER. MUST BE USED WITH CLUTCH PEDAL STOP
3. SEAL REBUILD KIT = 62-9980.
4. SEAL INSTALLATION TOOL = 96-002.
5. HYDRAULIC AREA = .93 SQ IN.
6. SELF ADJUSTING FOR CLUTCH WEAR
7. USE BEARING P/N 62-031

HRB | Service Parts

Bearings

For use with Tilton release bearings, as described below:

Application	Contact Diameter	Part Numbers
60-X3XX-Series HRBs	38mm (Radius-face)	**62-008**
60-X2XX-Series HRBs	44mm (Radius-face)	**62-031**
60-X0XX-Series HRBs	52mm (Radius-face)	**62-002**
60-X1XX-Series HRBs	Flat-face	**62-618**

Seal Kits

For use with Tilton release bearings, as described below:

Application	Part Numbers
Universal (except for 9000-Series)	**62-905**
9000-Series HRBs	**62-9980**

Pistons

For use with Tilton release bearings, as described below:

Application	Bearing Fitment	Length	Part Numbers
60-X2XX Series HRBs and 60-X3XX Series HRBs	38mm (radius-face) and 44mm (radius-face)	1.215" (30.9mm)	**62-6000**
		1.315" (33.4mm)	**62-6001**
		1.415" (35.9mm)	**62-6002**
		1.515" (38.5mm)	**62-6003**
		1.615" (41.0mm)	**62-6004**
		1.715" (43.6mm)	**62-6005**
		1.815" (46.1mm)	**62-6006**
		1.915" (48.6mm)	**62-6007**
		2.015" (51.2mm)	**62-6008**
		2.115" (53.7mm)	**62-6009**
60-X0XX-Series HRBs	52mm (radius-face)	1.530" (38.9mm)	**62-612**
60-X1XX-Series HRBs	Flat-face bearings	1.240" (31.5mm)	**62-6100**

Driveline Accessories | Clutch Bolt Kits

Metallic Clutch Bolt Kits

	Clutch Diameter (inches)	Plate Count (number)	Flywheel (type)	Mounting Hole (type)	Size (inches)	Length (under head)	Length (grip)	Part Number
5.5" Clutches	5.5"	1	Step	Through	5/16"-24	1.72"	1.19"	**95-001-5**
	5.5"	1	Step	Threaded	5/16"-24	1.47"	.938"	**95-015**
	5.5"	2	Step/Pot	Through	5/16"-24	1.97"	1.44"	**95-002-5**
	5.5"	2	Step	Threaded	5/16"-24	1.84"	1.31"	**95-009-5**
	5.5"	2	Pot	Threaded	5/16"-24	1.72"	1.19"	**95-010-5**
	5.5"	3	Step	Through	5/16"-24	2.34"	1.81"	**95-019**
	5.5"	3	Pot	Through	5/16"-24	2.22"	1.69"	**95-003-5**
	5.5"	3	Step	Threaded	5/16"-24	2.09"	1.56"	**95-018**
	5.5"	3	Pot	Threaded	5/16"-24	1.97"	1.44"	**95-002-5**
	5.5"	4	Step	Through	5/16"-24	2.59"	2.06"	**95-004-5**
	5.5"	4	Pot	Through	5/16"-24	2.47"	1.94"	**95-061**
	5.5"	4	Step	Threaded	5/16"-24	2.34"	1.81"	**95-019**
	5.5"	4	Pot	Threaded	5/16"-24	2.22"	1.69"	**95-003-5**
7.25" Clutches	7.25"	1	Step	Through	5/16"-24	1.47"	.938"	**95-026**
	7.25"	1	Step	Threaded	5/16"-24	1.34"	.813"	**95-009**
	7.25"	2	Step	Through	5/16"-24	1.84"	1.31"	**95-017**
	7.25"	2	Pot	Through	5/16"-24	1.72"	1.19"	**95-005**
	7.25"	2	Step	Threaded	5/16"-24	1.59"	1.06"	**95-028**
	7.25"	2	Pot	Threaded	5/16"-24	1.47"	.938"	**95-010**
	7.25"	3	Step	Through	5/16"-24	2.09"	1.56"	**95-018**
	7.25"	3	Pot	Through	5/16"-24	1.97"	1.44"	**95-006**
	7.25"	3	Step	Threaded	5/16"-24	1.84"	1.31"	**95-011**
	7.25"	3	Pot	Threaded	5/16"-24	1.72"	1.19"	**95-014**
	7.25"	4	Step	Through	5/16"-24	2.34"	1.81"	**95-008**
	7.25"	4	Pot	Through	5/16"-24	2.22"	1.69"	**95-003-5**
	7.25"	4	Step/Pot	Threaded	5/16"-24	2.09"	1.56"	**95-012**

Cerametallic Clutch Bolt Kits

	Clutch Diameter (inches)	Plate Count (number)	Flywheel (type)	Mounting Hole (type)	Size (inches)	Length (under head)	Length (grip)	Part Numbers
7.25" Clutches	7.25"	1	Step	Through	5/16"-24	1.59"	1.06"	**95-028**
	7.25"	1	Step	Threaded	5/16"-24	1.47"	.938"	**95-010**
	7.25"	2	Step	Through	5/16"-24	2.09"	1.56"	**95-018**
	7.25"	2	Step	Threaded	5/16"-24	1.84"	1.31"	**95-011**

Note for all bolt kits:

Step-type Flywheel: Clutch friction surface is .100" above clutch mounting surface.

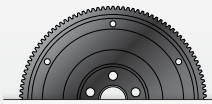
Pot-type Flywheel: Clutch friction surface is equal to clutch mounting surface.

Driveline Accessories

Flywheel Bolt Kits
Stud Kits

Carbon/Carbon Clutch Bolt Kits

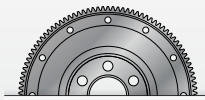
	Clutch Diameter (inches)	Plate Count (number)	Flywheel (type)	Mounting Hole (type)	Size (inches)	Length (under head)	Length (grip)	Part Numbers
5.5" Clutches	5.5"	1	Step/Pot	Through	5/16"-24	1.72"	1.19"	**95-001-5**
	5.5"	1	Step	Threaded	5/16"-24	1.59"	1.06"	**95-029**
	5.5"	1	Pot	Threaded	5/16"-24	1.47"	.938"	**95-015**
	5.5"	2	Step	Through	5/16"-24	2.09"	1.56"	**95-018**
	5.5"	2	Pot	Through	5/16"-24	1.97"	1.44"	**95-002-5**
	5.5"	2	Step	Threaded	5/16"-24	1.84"	1.31"	**95-009-5**
	5.5"	2	Pot	Threaded	5/16"-24	1.72"	1.19"	**95-010-5**
	5.5"	3	Step	Through	5/16"-24	2.47"	1.94"	**95-061**
	5.5"	3	Pot	Through	5/16"-24	2.34"	1.81"	**95-019**
	5.5"	3	Step	Threaded	5/16"-24	2.22"	1.69"	**95-003-5**
	5.5"	3	Pot	Threaded	5/16"-24	2.09"	1.56"	**95-018**
	5.5"	4	Step	Through	5/16"-24	2.72"	2.19"	**95-060**
	5.5"	4	Pot	Through	5/16"-24	2.59"	2.06"	**95-004-5**
	5.5"	4	Step	Threaded	5/16"-24	2.47"	1.94"	**95-061**
	5.5"	4	Pot	Threaded	5/16"-24	2.34"	1.81"	**95-019**
7.25" Clutches	7.25"	1	Step/Pot	Through	5/16"-24	1.72"	1.19"	**95-020**
	7.25"	1	Step/Pot	Threaded	5/16"-24	1.47"	.938"	**95-041**
	7.25"	2	Step	Through	5/16"-24	2.09"	1.56"	**95-027**
	7.25"	2	Pot	Through	5/16"-24	1.97"	1.44"	**95-023**
	7.25"	2	Step/Pot	Threaded	5/16"-24	1.84"	1.31"	**95-063**
	7.25"	3	Step/Pot	Through	5/16"-24	2.47"	1.94"	**95-016**
	7.25"	3	Step/Pot	Threaded	5/16"-24	2.22"	1.69"	**95-025**
	7.25"	4	Pot	Through	5/16"-24	2.84"	2.31"	**95-065**
	7.25"	4	Step	Threaded	5/16"-24	2.72"	2.19"	**95-064**
	7.25"	4	Pot	Threaded	5/16"-24	2.59"	2.06"	**95-042**



Flywheel Bolt Kits

Bolt kit for mounting Tilton flywheels to the engine crank shaft.

Size (inches)	Length (under head)	Socket Size (inches)	Bolts in Kit (number)	Part Numbers
7/16"-20	.875"	1/2" 12-pt	6	**95-952-6**
7/16"-20	.875"	1/2" 12-pt	8	**95-952-8**
7/16"-20	.800"	3/4" 12-pt	6	**95-975-6**
7/16"-20	.800"	3/4" 12-pt	8	**95-975-8**
11mm x 1.5	.880"	1/2" 12-pt	6	**95-940-6**



Clutch-to-Flywheel Stud Kits

Clutch-to-Flywheel Stud Kits are designed to press fit into specific Tilton flywheels, such as the 110-tooth flywheel supplied in 52-Series 7.25" Rear-mount Starter Packages.

Clutch Diameter (inches)	Plate Count (number)	Part Numbers
7.25"	3	**95-100-6**
7.25"	2	**95-101-6**

Driveline Accessories | Cooler Pumps

P/Ns:	**See List**
Pump head ports:	**3/8" NPT**
Recommended line size:	**AN-8**
Smallest line size:	**AN-4**
Flow Rate:	**1-2 GPM (varies by load)**
Maximum Pressure:	**50 PSI**
Continuous Duty Temp:	**40° – 160° F (4° – 71° C)**
Intermittent Use Max Temp:	**265° F (130° C)**
Power:	**12-Volt DC**
Dimensions (L x W x H):	
Intermittent Use Models:	**7.63" x 3.93" x 3.62"**
Continuous Duty Model:	**8.57" x 3.93" x 3.62"**
Weights:	
Intermittent Use Models:	**3.5 lbs. (1.6 kg)**
Continuous Duty Model:	**5.5 lbs. (2.5 kg)**

Tilton cooler pumps are ideal for pumping oil through transmission and differential coolers. They can also be used for many other applications, such as emptying fuel tanks or circulating coolant. Each pump features an internal bypass valve and is self-priming up to 8-ft above the source from which it draws. Tilton cooler pumps are a positive displacement type of pump, so their output is directly proportional to the motor speed. For example, if a lighter load increases the motor speed by 25%, then the flow rate increases by 25%.

Buna model
Designed for use with standard oils and coolants.

Viton model
Designed for use with corrosive fluids such as alcohol.

Typical Applications
- Transmission Cooler
- Differential Cooler
- Coolant Distribution
- Fuel Tank/Line Flush

Intermittent Use Pumps

Pump Motor Duty Cycle: 1-2 hr with 15 minute cool down
P/N: 40-524 (Buna) | P/N: 40-525 (Viton)

Designed for applications where pump does not need to be used continuously, such as being turned on/off by the driver or by a relay at an established temperature. Options include Buna or Viton rubber diaphragm and check valve.

Continuous Duty Pumps

Pump Motor Duty Cycle: Up to 1000 hours continuous
P/N: 40-527 (Buna)

Designed for applications where the pump needs to operate continuously for longer than 2 hours at a time without cool down.

Cooler Pumps	
Intermittent duty, Buna diaphragm	40-524
Intermittent duty, Viton diaphragm	40-525
Continuous duty, Buna diaphragm	40-527

Service Parts	*Part Numbers*
Diaphragm kit	
Buna	40-902
Viton	40-912
Check valve assembly	
Buna	40-934
Viton	40-935

Pedal Assemblies

Tilton offers a wide range of pedal assemblies for use in racing and high-performance applications. Fully optimized for strength and weight using the latest Finite Element Analysis (FEA) software, each Tilton pedal assembly is engineered to provide the highest performance possible for pedal assemblies of their type. Tilton offers three different series of pedal assemblies in both floor-mount and hanging pedal configurations: 600-Series, 800-Series and 900-Series.

600-Series Pedal Assemblies

- Benchmark for pedal assemblies of their type. Offers great performance and value.
- Traditional spherical bearing type balance bar and fixed-mount master cylinder design.
- Large diameter 7/16" diameter balance bar minimizes flex and provide a solid feel & response. Low friction coating on aluminum clevises for increased durability and smooth action.
- Lightweight forged aluminum pedals provide high strength and rigidity.
- Lightweight permanent mold cast aluminum frame.
- Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings for smooth operation and long service life.
- Adjustable pedal ratio.
- Adjustable pedal pad positions.

800-Series Pedal Assemblies

- Merges the performance of Tilton 900-Series pedal assembly technology and the renowned value of 600-Series pedal assemblies.
- High-efficiency spherical bearing type balance bar and pivot-mount master cylinder design.
- Large diameter 7/16" diameter balance bar minimizes flex and provide a solid feel & response. High efficiency balance bar is designed to limit motion to the horizontal plane, and combined with 78-Series master cylinders, reduce friction and brake pressure migration throughout braking zones.
- Lightweight forged aluminum pedals provide high strength and rigidity.
- Lightweight permanent mold cast aluminum frame.
- Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings for smooth operation and long service life.
- Adjustable pedal ratio.
- Adjustable pedal pad positions.
- Frame mounting pattern is shared with Tilton 600-Series pedal assemblies, and some competitor's pedal assemblies, enabling an easy upgrade.

900-Series Pedal Assemblies

- Ultimate in pedal assembly technology, performance and weight savings.
- Ultra-efficient trunnion type balance bar and pivot-mount master cylinder design.
- Trunnion type balance bar features needle bearings at all pivots, providing the highest level of efficiency and smooth operation. Combined with 78-Series pivot-mount master cylinders, brake pressure migration through braking zones is virtually eliminated.
- Lightweight billet aluminum pedals provide high strength and rigidity.
- Lightweight one-piece billet aluminum frame.
- Pedal pivots feature needle bearing and/or ball bearings for the ultimate in smooth operation and service life.
- Adjustable pedal ratio.
- Adjustable pedal pad positions.

2 & 3-Pedal | Underfoot

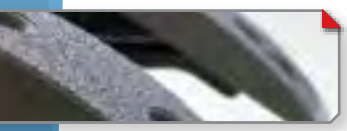
600 series

*

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Details:	**3-pedal** *(clutch, brake, throttle)* **P/N: 72-616** **Weight: 6.4 lbs (2.9 kg)** **2-pedal** *(clutch, brake)* **P/N: 72-617** **Weight: 5.0 lbs (2.3 kg)** **2-pedal** *(brake, throttle)* **P/N 72-618** **Weight: 4.6 lbs (2.2 kg)**

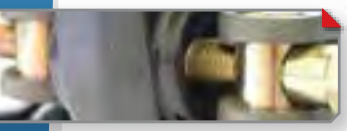
Typical Applications

- Road Racing
- Endurance
- Open Wheel/Formula
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting
- Time Attack



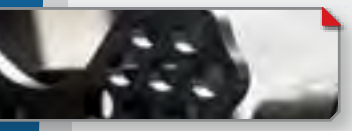
Foots pads can be adjusted vertically, horizontally and in angle to suit individual driver preferences. Pedal ratio adjustable from 5.4:1 to 6.9:1 depending on pad position.

Lightweight aluminum frame features guide "ramps" to reduce balance bar tipping. By reducing balance bar tipping brake repeatability is improved.

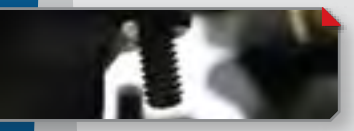


Large diameter 7/16"-20 balance bar, allowing front/rear brake bias adjustments, minimizes flex to provide a solid pedal feel/response. PTFE coated aluminum clevises for increased durability and reduced friction.

Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Frame accepts optional throttle linkage kits, to enable adjustments for either mechanical or drive-by-wire throttle controls.



Adjustable throttle pedal stops limit pedal movement in both directions. Adjustable clutch pedal stop prevents clutch over-stroking.

Throttle linkage kit

Mechanical type (shown): **P/N 72-793**

Drive-by-wire type: **P/N 72-794***

** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

Optional Components

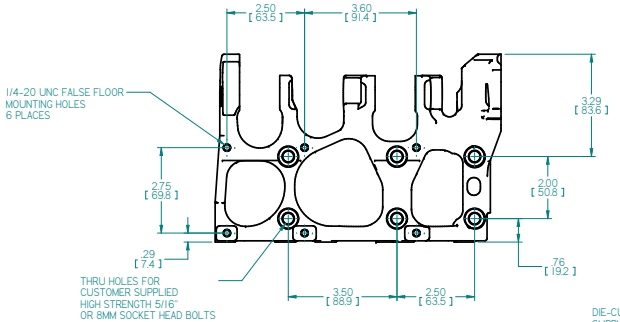
Master Cylinders	*Page*
76-Series Master Cylinders	77

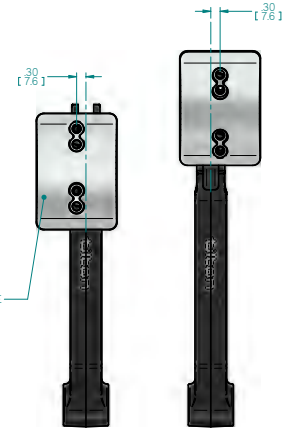
Accessories	*Page*
3-Chamber Reservoirs	82
Brake Bias Adjusters	84
Proportioning Valves	85
Flow Control Valve	85

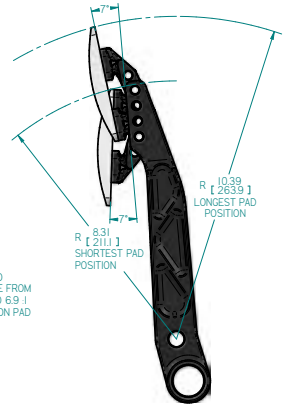
** Does not include master cylinders*

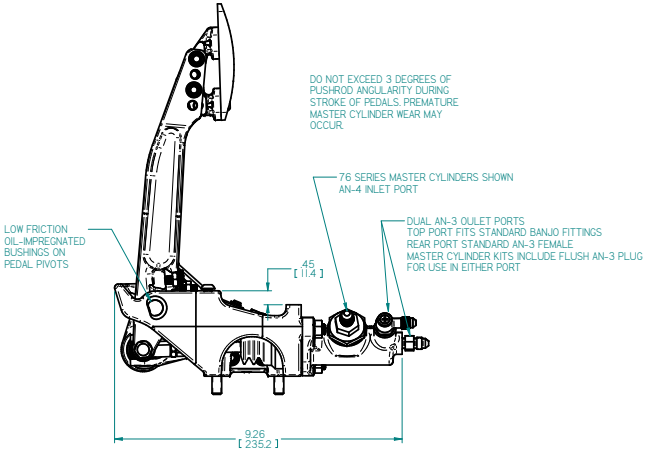
Detailed Pedal Assembly Drawing

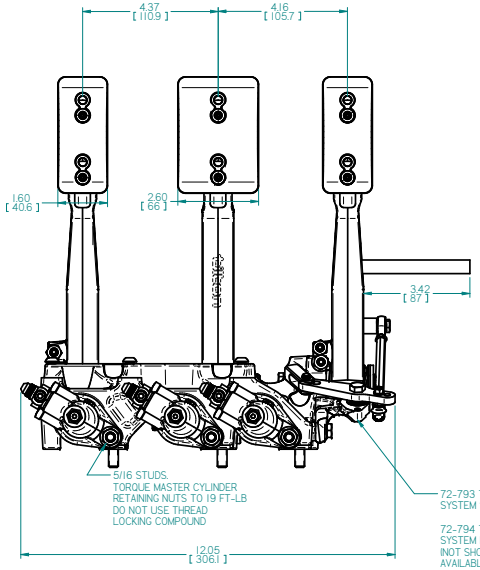
REV	ECN	DATE	BY	CHANGE OR ADDITION
NC	1203	6/20/2014	LUND	INITIAL RELEASE

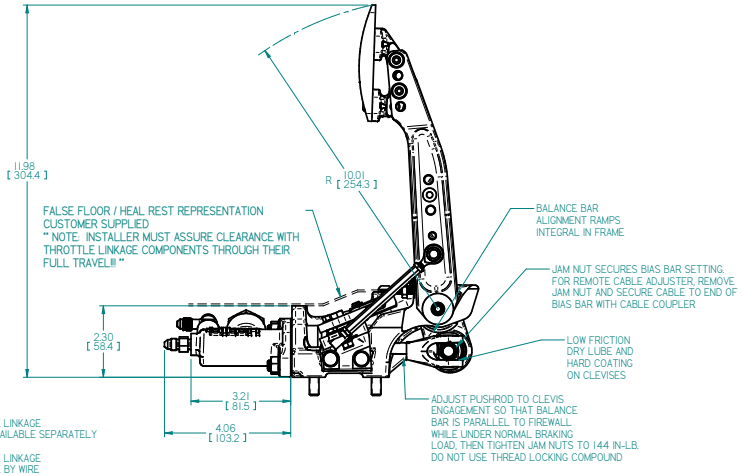


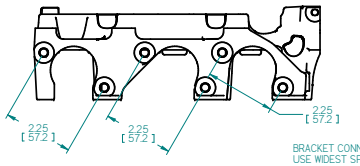


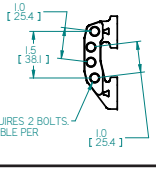


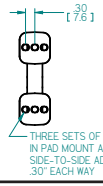












PEDAL ASSEMBLY IS COMPATIBLE WITH TILTON ENGINEERING 76 SERIES MASTER CYLINDERS SOLD SEPARATELY

76 SERIES MASTER CYLINDERS SHOWN HERE ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT INCLUDED WITH PEDAL ASSEMBLY

NOTES:

1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.
3. DIMENSIONS ARE NOMINAL.

TILTON ENGINEERING, INC. (805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: PEDAL ASSEMBLY, UNDERFOOT, 3 PEDAL, INSTALLATION DRAWING

DRN BY	CHK'D	SCALE	DWG	REV
LUND	WAHL	1 : 2	6055	NC
P/N 72-616	DATE 6/20/2014	SHEET 1 OF 1		

2 & 3-Pedal | Floor-Mount

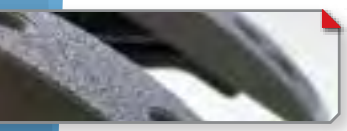
600 series

*

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Details:	**3-pedal** *(clutch, brake, throttle)* **P/N: 72-603** **Weight: 5.5 lbs (2.5 kg)** **2-pedal** *(clutch, brake)* **P/N: 72-604** **Weight: 4.6 lbs (2.1 kg)**

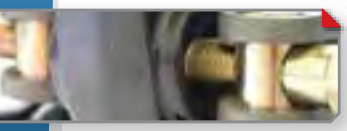
Typical Applications

- Road Racing
- Endurance
- Open Wheel/Formula
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting
- Time Attack



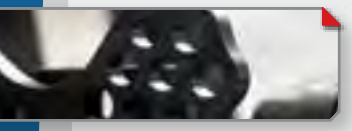
Forged aluminum pedals with adjustable (vertical & horizontal) foot pads and anti-slip surfaces. Ratios achievable: 5.29:1, 5.44:1, 5.61:1, 5.75:1.

Lightweight aluminum frame features guide "ramps" to reduce balance bar tipping. By reducing balance bar tipping brake repeatability is improved.

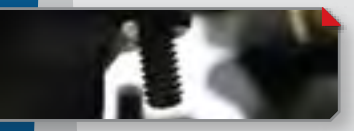


Large diameter 7/16"-20 balance bar, allowing front/rear brake bias adjustments, minimizes flex to provide a solid pedal feel/response. PTFE coated aluminum clevises for increased durability and reduced friction.

Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Frame accepts optional throttle linkage kits, to enable adjustments for either mechanical or drive-by-wire throttle controls.



Adjustable throttle pedal stops limit pedal movement in both directions. Adjustable clutch pedal stop prevents clutch over-stroking.

Throttle linkage kit

Mechanical type (shown): **P/N 72-791**

Drive-by-wire type: **P/N 72-792***

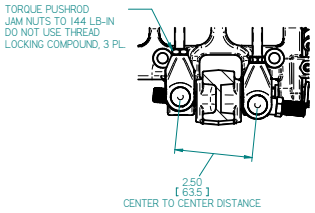
** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

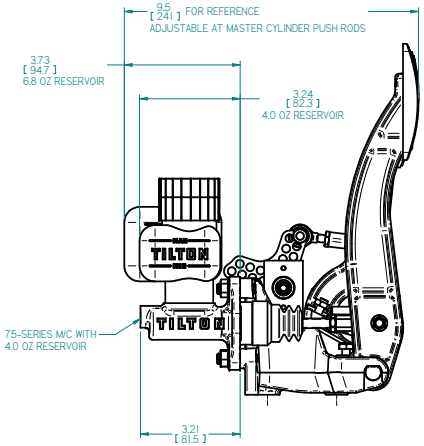
Optional Components

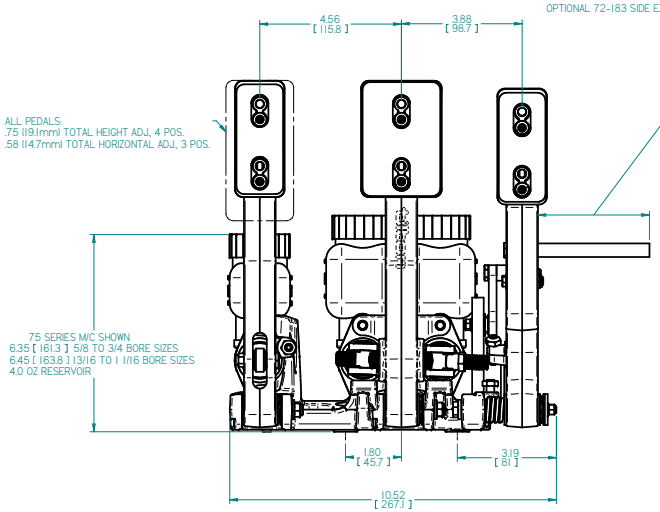
** Does not include master cylinders*

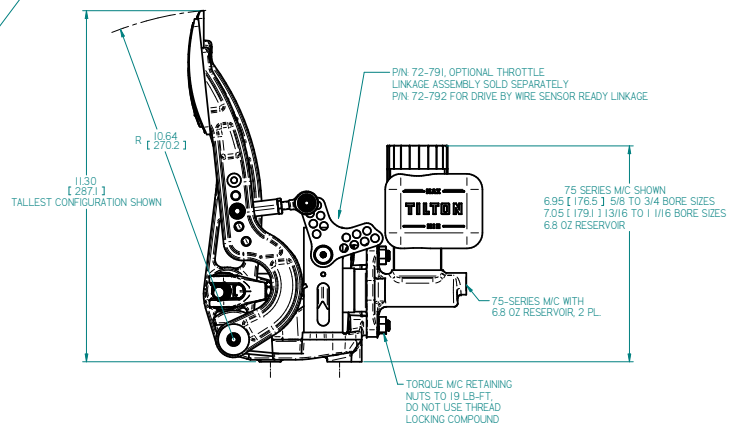
Detailed Pedal Assembly Drawing

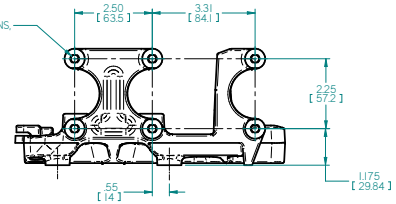
REV	ECN	DATE	BY	CHANGE OR ADDITION

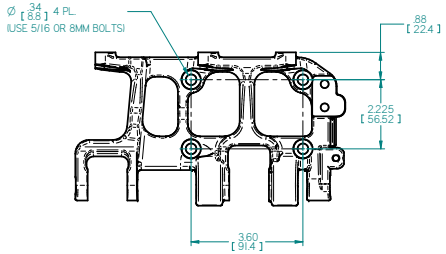












NOTES:
1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES [MM].

TILTON ENGINEERING, INC.
(805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: PEDAL ASSEMBLY, 600-SERIES
FLOOR MOUNT, 3 PEDAL, ALUMINUM (INSTALLATION DRAWING)

DRN BY	REED	CHK'D	WAHL	SCALE 1 : 1	DWG	REV
P/N	72-603	DATE	04/08/10	SHEET 1 OF 1	5205	A

2-Pedal | Overhung-Mount

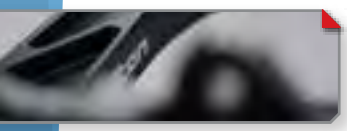
600 series


*

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**4.8 lbs (2.2 kg)**
P/N:	**72-608**

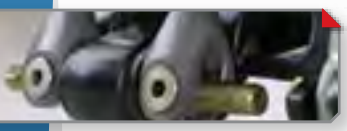
Typical Applications

- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting

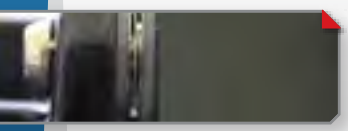


Forged aluminum pedals are engineered for high rigidity and low weight.

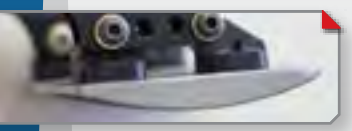
Lightweight aluminum frame features guide "ramps" to reduce balance bar tipping. By decreasing balance bar tipping, friction is decreased and brake repeatability is improved.



Large diameter 7/16"-20 balance bar, allowing front/rear brake bias adjustments, minimizes flex to provide a solid pedal feel/response. PTFE coated aluminum clevises for increased durability and reduced friction.



Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Foot pads can be adjusted vertically, horizontally and in angle to suit individual driver preferences. With two different pad sizes the customization is virtually endless.

600-Series Hanging Throttle Pedal see page 62

P/N 72-615

Weight: 1.70 lbs (0.77 kg)

Shown with optional throttle linkage kit

Mechanical type (shown): **P/N 72-791**

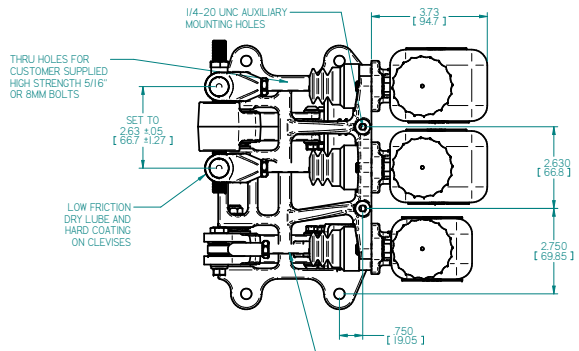
Drive-by-wire type: **P/N 72-792***

** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

Optional Components

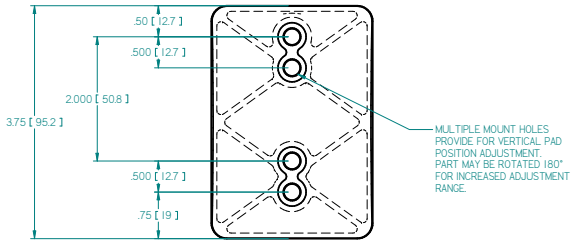
** Does not include master cylinders*

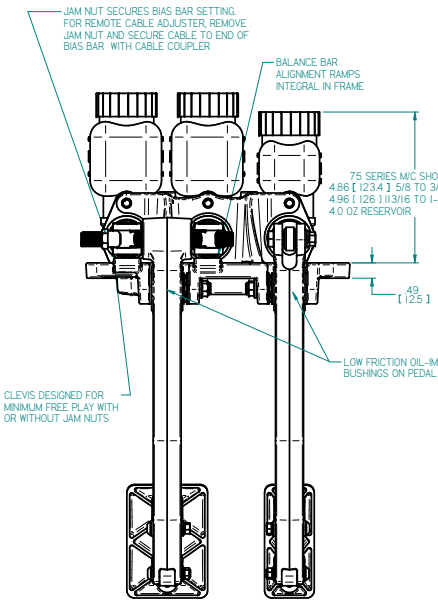
Detailed Pedal Assembly Drawing

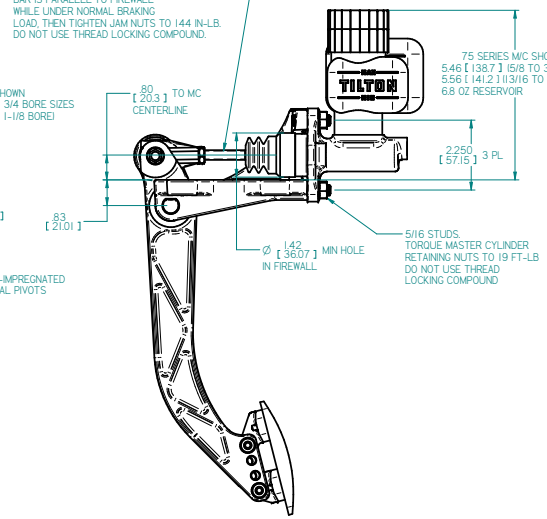


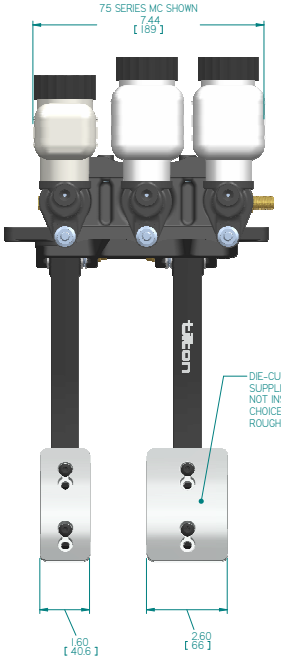
DO NOT EXCEED 3 DEGREES OF PUSHROD ANGULARITY DURING STROKE OF PEDALS. PREMATURE MASTER CYLINDER WEAR MAY OCCUR.

REV	ECN	DATE	BY	CHANGE OR ADDITION
NC	1059	04/30/2013	LUND	INITIAL RELEASE
A	1102	10/04/2013	LUND	ADDED DUAL DIMENSIONS, CONNECTION BRACKET CLARIFICATION

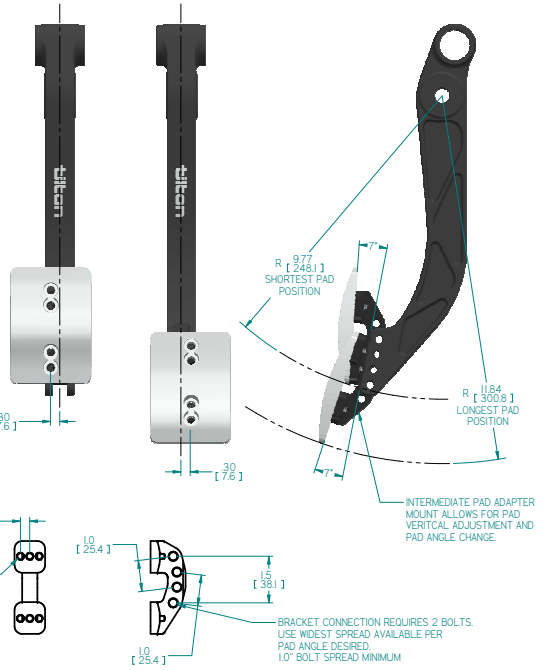


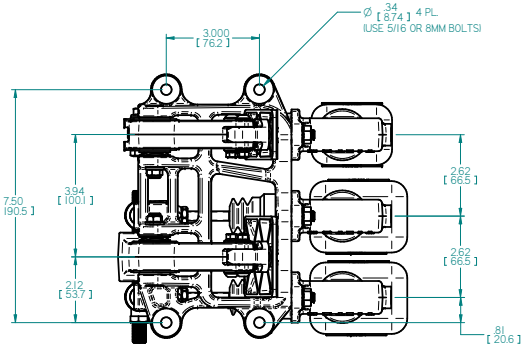






PEDAL RATIO WILL VARY FROM 5.0:1 TO 6.2:1 BASED ON PEDAL PAD POSITION.





NOTES:
1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES [MM].
3. DIMENSIONS ARE NOMINAL.

PEDAL ASSEMBLY IS COMPATIBLE WITH TILTON ENGINEERING 73, 74, 75 OR 76 SERIES MASTER CYLINDERS SOLD SEPARATELY

75 SERIES MASTER CYLINDERS SHOWN HERE ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT INCLUDED WITH PEDAL ASSEMBLY

TILTON ENGINEERING, INC.
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA
(805) 688-2353 FAX (805) 688-2745

TITLE: PEDAL ASSEMBLY INSTALLATION DRAWING
TWO PEDAL, THREE CYLINDER, OVERHUNG MOUNT, ALUMINUM

DRN BY	CHK'D	SCALE	DWG	REV
WAHL	LUND	1 : 2	5827	A
P/N 72-608	DATE 04/30/2013	SHEET 1 OF 1		

2-Pedal | Firewall-Mount

600 series

*

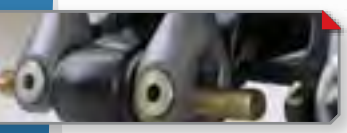
Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**4.8 lbs (2.2 kg)**
P/N:	**72-607**

Typical Applications

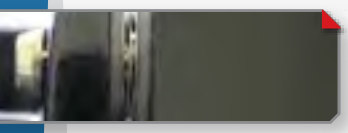
- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting

Forged aluminum pedals are engineered for high rigidity and low weight.

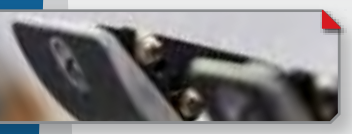
Lightweight aluminum frame features guide "ramps" to reduce balance bar tipping. By decreasing balance bar tipping, friction is decreased and brake repeatability is improved.



Large diameter 7/16"-20 balance bar, allowing front/rear brake bias adjustments, minimizes flex to provide a solid pedal feel/response. PTFE coated aluminum clevises for increased durability and reduced friction.



Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Foot pads can be adjusted vertically, horizontally and in angle to suit individual driver preferences. With two different pad sizes the customization is virtually endless.

600-Series Hanging Throttle Pedal see page 62

P/N 72-615

Weight: 1.70 lbs (0.77 kg)

Shown with optional throttle linkage kit

Mechanical type (shown): **P/N 72-791**

Drive-by-wire type: **P/N 72-792***

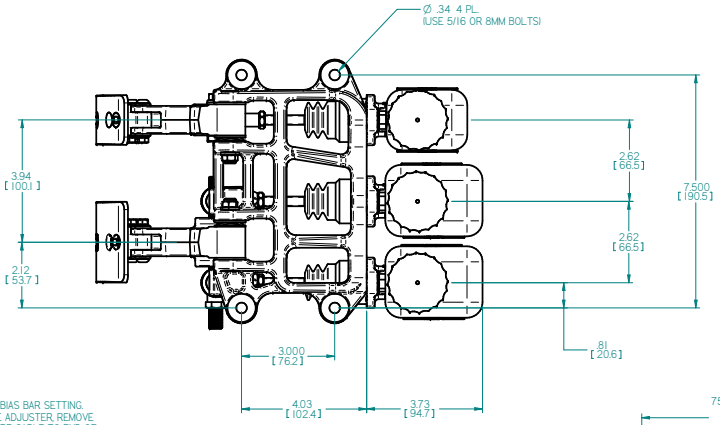
** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

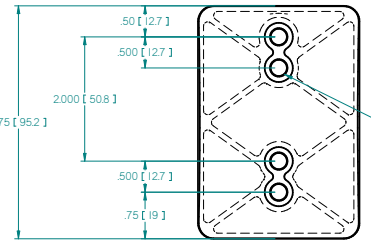
Optional Components

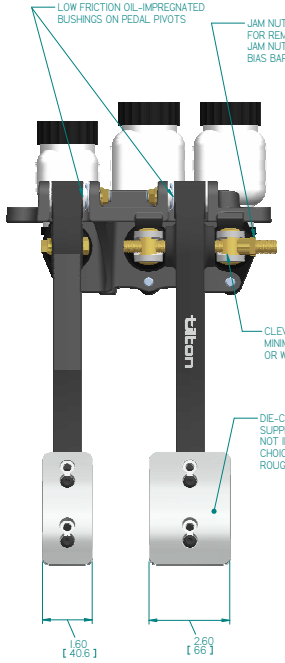
** Does not include master cylinders*

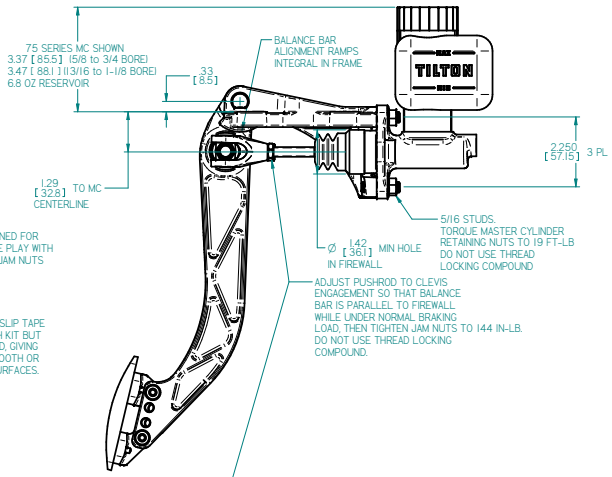
Detailed Pedal Assembly Drawing

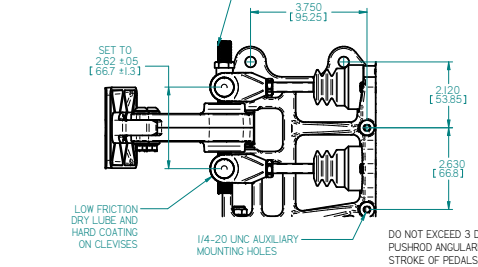
REV	ECN	DATE	BY	CHANGE OR ADDITION
NC	1050	04/08/2012	WAHL	INITIAL RELEASE
A	1102	10/04/2013	LUND	ADDED DUAL DIMENSIONS, CONNECTION BRACKET CLARIFICATION

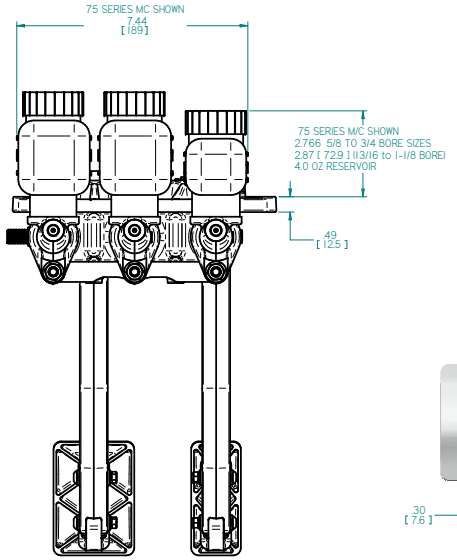




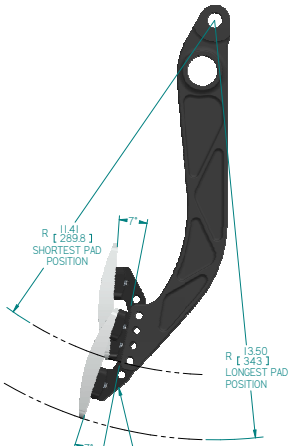


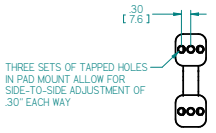


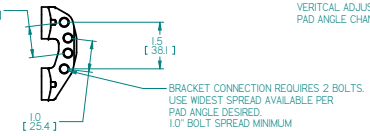




PEDAL RATIO WILL VARY FROM 5.0:1 TO 6.2:1 BASED ON PEDAL PAD POSITION.







NOTES:
1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
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3. DIMENSIONS ARE NOMINAL.

PEDAL ASSEMBLY IS COMPATIBLE WITH TILTON ENGINEERING 73, 74, 75 OR 76 SERIES MASTER CYLINDERS SOLD SEPARATELY

75 SERIES MASTER CYLINDERS SHOWN HERE ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT INCLUDED WITH PEDAL ASSEMBLY

TILTON ENGINEERING, INC.
(805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: PEDAL ASSEMBLY INSTALLATION DRAWING
TWO PEDAL, THREE CYLINDER, FIREWALL MOUNT, ALUMINUM

DRN BY	EVS	CHK'D	WAHL	SCALE 1 : 2	DWG	5054	REV	A
P/N	72-607	DATE	03/09/2006	SHEET 1 OF 1				

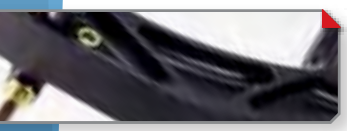
1-Pedal | Hanging Throttle

600 series

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**1.70 lbs (0.77 kg)**
P/N:	**72-615**

Typical Applications

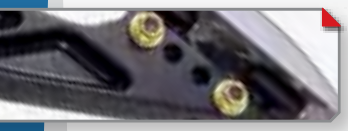
- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting



Forged aluminum pedal engineered for high rigidity and low weight

Compatible with either mechanical throttle linkage or drive-by-wire sensor (throttle linkage kits sold separately)

Adjustable throttle stop



Aluminum foot pads can be adjusted vertically, horizontally and in angle to suit individual driver preferences

Low friction oil-impregnated bushing on pedal pivot

Throttle linkage kit

Mechanical type (shown): **P/N 72-791**

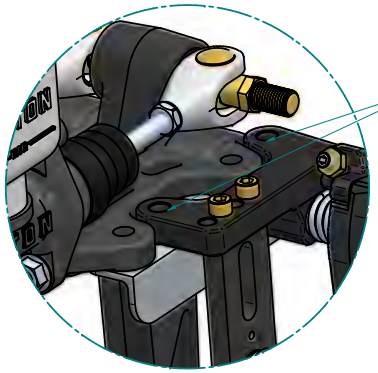
Drive-by-wire type: **P/N 72-792***

** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

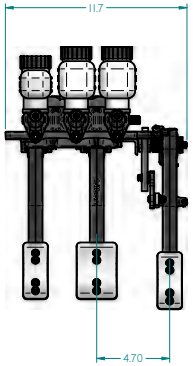
** Shown with optional throttle linkage kit*

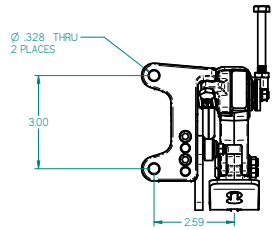
Detailed Pedal Assembly Drawing

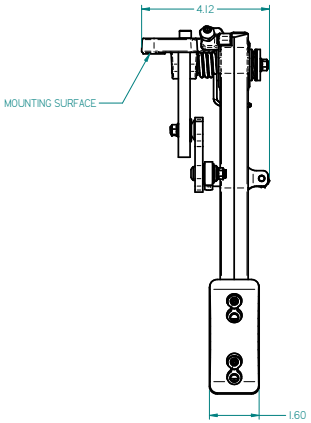
REV	ECN	DATE	BY	CHANGE OR ADDITION

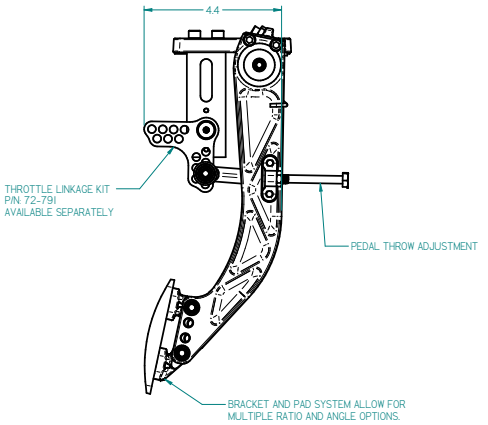


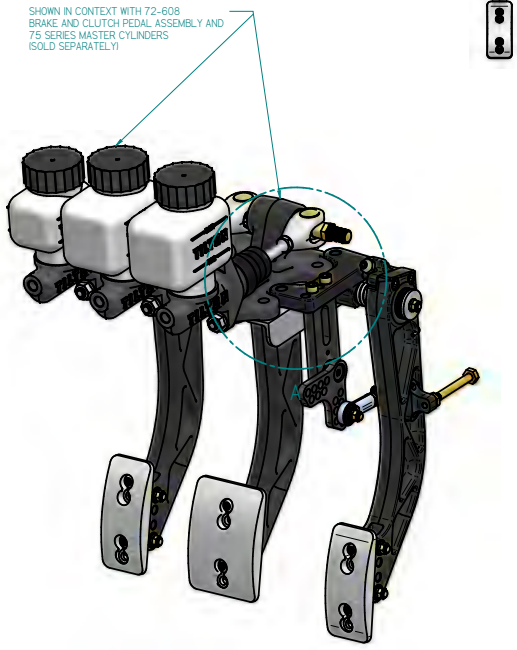
DETAIL A

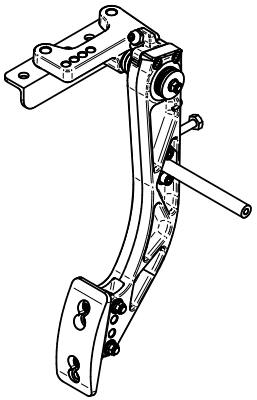


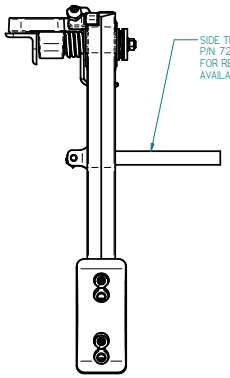


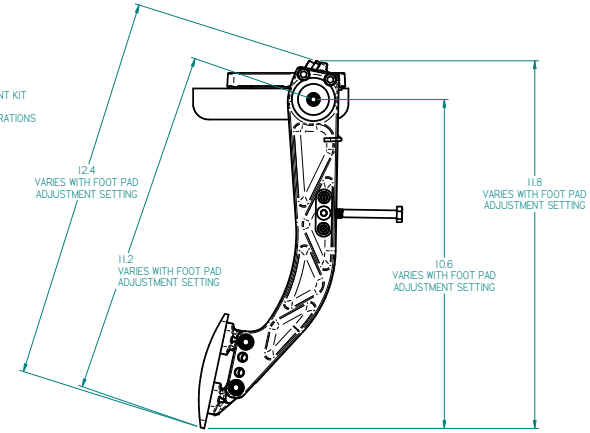












NOTES:
1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

TILTON ENGINEERING, INC.
(805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: INSTALLATION DRAWING
600 SERIES HANGING THROTTLE PEDAL ASSEMBLY

DRN BY	WAHL	CHK'D	LUND	SCALE	1 : 2	DWG	5928	REV	B
P/N	72-615	DATE	03/04/2014	SHEET	1 OF 1				

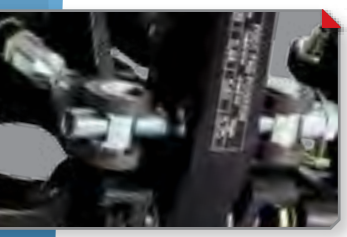
2 & 3-Pedal | Floor-Mount

800 series

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**3-pedal** *(clutch, brake, throttle)* **P/N: 72-803** **Weight: 6.3 lbs (2.8kg)**
P/N:	**2-pedal** *(clutch, brake)* **P/N: 72-804** **Weight: 5.3 lbs (2.4kg)**

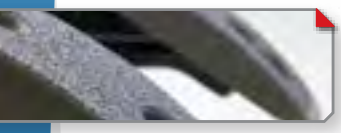
Typical Applications

- Road Racing
- Endurance
- Open Wheel/Formula
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting
- Time Attack

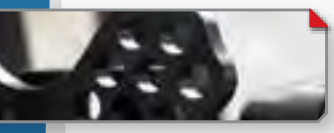


7/16" high-efficiency balance bar, combined with 78-Series pivot-mount master cylinders (sold separately), is designed to limit motion to the horizontal plane, reducing friction and brake pressure migration through braking zones.

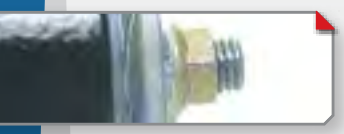
Provides repeatability corner-to-corner and inspires driver confidence.



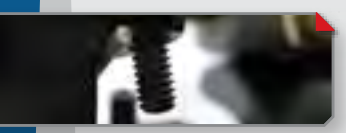
Forged aluminum pedals with adjustable (vertical & horizontal) foot pads and anti-slip surfaces. Ratios achievable: 5.29:1, 5.44:1, 5.61:1, 5.75:1



Lightweight permanent-mold cast aluminum frame. Accepts optional mechanical or drive-by-wire linkage systems.



Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Adjustable throttle pedal pedal stops limit pedal movement in both directions. Adjustable clutch pedal stop prevents clutch over-stroking.

Throttle linkage kit

Mechanical type (shown): **P/N 72-791**

Drive-by-wire type: **P/N 72-792***

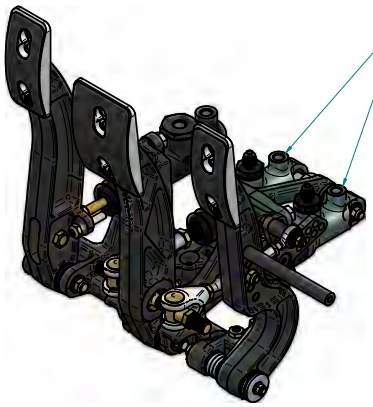
** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

Optional Components

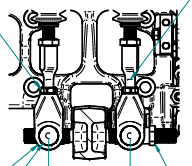
** Does not include master cylinders*

Detailed Pedal Assembly Drawing

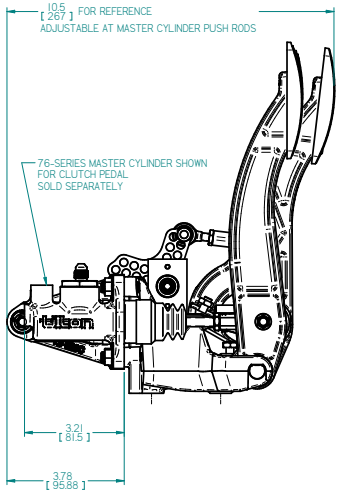
REV	ECN	DATE	BY	CHANGE OR ADDITION

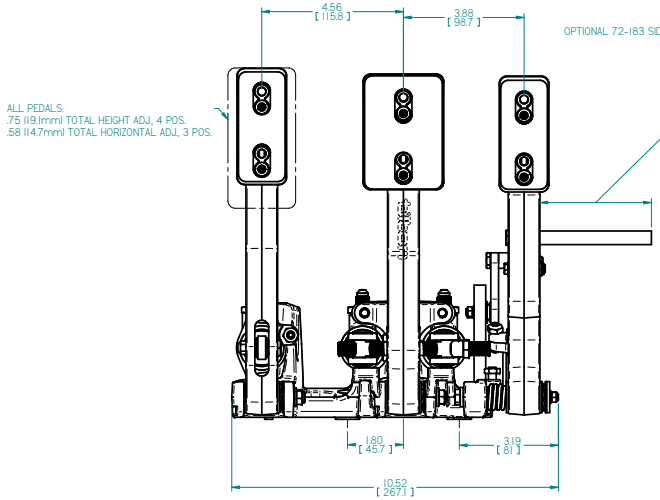


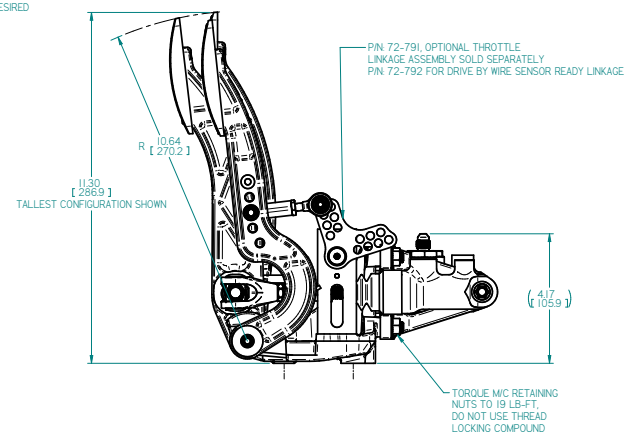
PLUMBING MUST BE FLEXIBLE LINES AT INLET AND OUTLET OF PIVOT TYPE MASTER CYLINDERS. MASTER CYLINDERS MUST BE ALLOWED TO MOVE SLIGHTLY DURING ADJUSTMENT AND USE.

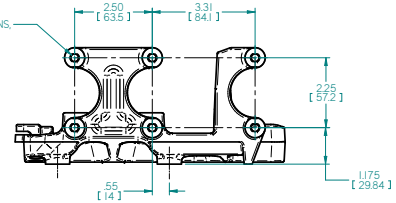


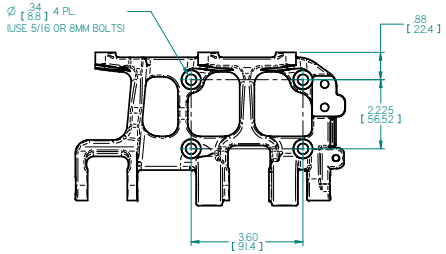
FOR CLUTCH, DO NOT EXCEED 3 DEGREES OF PUSHROD ANGULARITY DURING STROKE OF PEDALS. PREMATURE MASTER CYLINDER WEAR MAY OCCUR.











PEDAL ASSEMBLY IS COMPATIBLE WITH TILTON ENGINEERING 73, 74, 75 OR 76 SERIES MASTER CYLINDERS AT THE CLUTCH PEDAL LOCATION AND ARE SOLD SEPARATELY

77, 78 SERIES MASTER CYLINDERS ARE TO BE USED AT THE BRAKE PEDAL LOCATION AND ARE SOLD SEPARATELY

76/78 SERIES MASTER CYLINDERS SHOWN HERE ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT INCLUDED WITH PEDAL ASSEMBLY

NOTES:
1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES [MM].
3. DIMENSIONS ARE NOMINAL.

TILTON ENGINEERING, INC. (805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: PEDAL ASSEMBLY, FLOOR MOUNT, PIVOT TYPE MASTERS
INSTALLATION DRAWING, 3 PEDAL, ALUMINUM

DRN BY	LUND	CHK'D	WAHL	SCALE 1 : 2	DWG	6349	REV	NC
P/N	72-803	DATE	9/7/2016	SHEET 1 OF 1				

2-Pedal | Overhung-Mount

800 series

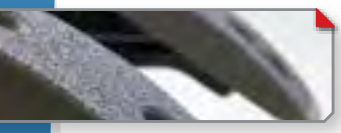
Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**5.5 lbs (2.5kg)**
P/N:	**72-808**

Typical Applications

- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting

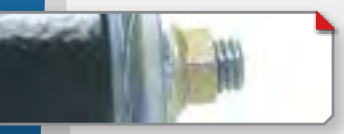
7/16" high-efficiency balance bar, combined with 78-Series pivot-mount master cylinders (sold separately), is designed to limit motion to the horizontal plane, reducing friction and brake pressure migration through braking zones.

Provides repeatability corner-to-corner and inspires driver confidence.

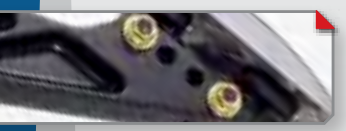


Forged aluminum pedals with adjustable (vertical & horizontal) foot pads and anti-slip surfaces. Pedal ratio adjustable 5.0:1 to 6.2:1.

Lightweight permanent-mold cast aluminum frame.



Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Foot pads can be adjusted vertically, horizontally and in angle to suit individual driver preferences.

600-Series Hanging Throttle Pedal see page 62

P/N 72-615

Weight: 1.70 lbs (0.77 kg)

Shown with optional throttle linkage kit

Mechanical type (shown): **P/N 72-791**

Drive-by-wire type: **P/N 72-792***

** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

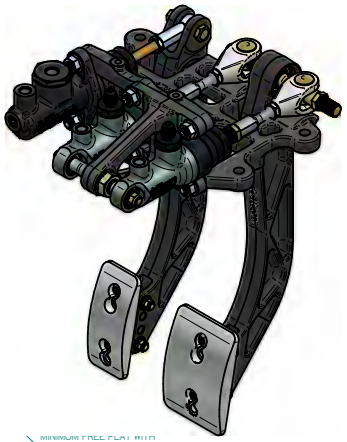
Optional Components

Master Cylinders	*Page*
78-Series Master Cylinders (brake)	76
76-Series Master Cylinders (clutch)	77

Accessories	*Page*
3-Chamber Reservoirs	82
Brake Bias Adjusters	84
Proportioning Valves	85
Flow Control Valve	85

** Does not include master cylinders*

Detailed Pedal Assembly Drawing



REV	ECN	DATE	BY	CHANGE OR ADDITION

1/4-20 UNC AUXILIARY MOUNTING HOLES

PLUMBING MUST BE FLEXIBLE LINES AT INLET AND OUTLET OF PIVOT TYPE MASTER CYLINDERS. MASTER CYLINDERS MUST BE ALLOWED TO MOVE SLIGHTLY DURING ADJUSTMENT AND USE.

SET TO 2.62 ±.05 [66.7 ±1.27]

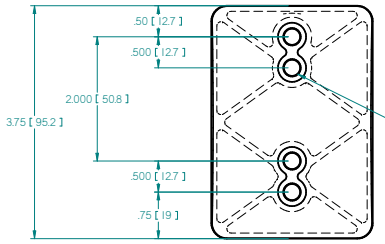
LOW FRICTION DRY LUBE AND HARD COATING ON CLEVISES

2.630 [66.8]

2.750 [69.85]

.750 [19.05]

FOR CLUTCH, DO NOT EXCEED 3 DEGREES OF PUSHROD ANGULARITY DURING STROKE OF PEDALS. PREMATURE MASTER CYLINDER WEAR MAY OCCUR.



MULTIPLE MOUNT HOLES PROVIDE FOR VERTICAL PAD POSITION ADJUSTMENT. PART MAY BE ROTATED 180° FOR INCREASED ADJUSTMENT RANGE.

ADJUST PUSHROD TO CLEVIS ENGAGEMENT SO THAT BALANCE BAR IS PARALLEL TO FIREWALL WHILE UNDER NORMAL BRAKING LOAD, THEN TIGHTEN JAM NUTS TO 144 IN-LB. DO NOT USE THREAD LOCKING COMPOUND.

8.681 [220.5]
BALANCE BAR FIXED SIDE TO SIDE
CLEVIS MOVES SIDE TO SIDE AS BALANCE BAR IS TURNED

MINIMUM FREE PLAY WITH OR WITHOUT JAM NUTS

2.68 [67.95]

.49 [12.5]

LOW FRICTION OIL-IMPREGNATED BUSHINGS ON PEDAL PIVOTS

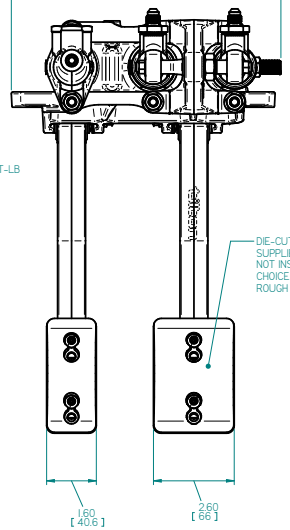
.80 [20.3] TO MC CENTERLINE

2.250 [57.15] 3 PL.

.83 [21.01]

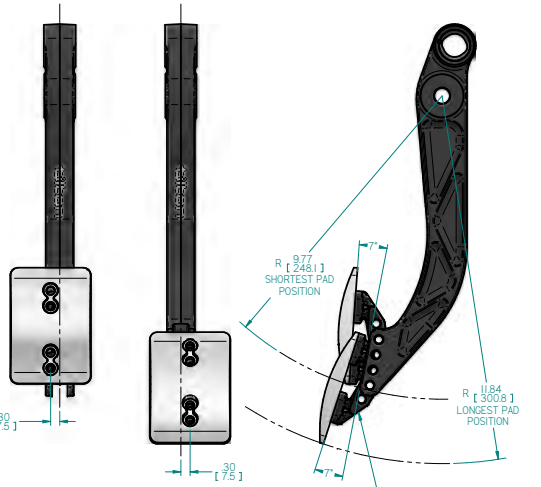
Ø 1.42 [36.07] MIN HOLE IN FIREWALL

5/16 STUDS. TORQUE MASTER CYLINDER / BRACKET SERRATED FLANGE RETAINING NUTS TO 19 FT-LB DO NOT USE THREAD LOCKING COMPOUND



DIE-CUT ANTI-SLIP TAPE SUPPLIED WITH KIT BUT NOT INSTALLED, GIVING CHOICE OF SMOOTH OR ROUGH PAD SURFACES.

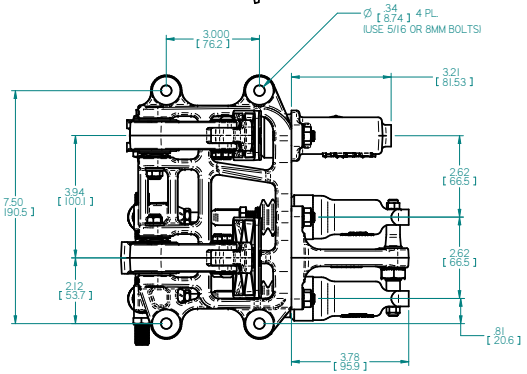
PEDAL RATIO WILL VARY FROM 5.0:1 TO 6.2:1 BASED ON PEDAL PAD POSITION.



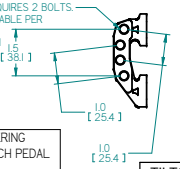
INTERMEDIATE PAD ADAPTER MOUNT ALLOWS FOR PAD VERITCAL ADJUSTMENT AND PAD ANGLE CHANGE.

JAM NUT SECURES BIAS BAR SETTING.

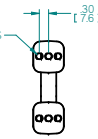
FOR REMOTE CABLE ADJUSTER, REMOVE JAM NUT AND SECURE CABLE TO END OF BIAS BAR WITH CABLE COUPLER



BRACKET CONNECTION REQUIRES 2 BOLTS. USE WIDEST SPREAD AVAILABLE PER PAD ANGLE DESIRED. 1.0" BOLT SPREAD MINIMUM.



THREE SETS OF TAPPED HOLES IN PAD MOUNT ALLOW FOR SIDE-TO-SIDE ADJUSTMENT OF .30" EACH WAY



1.60 [40.6]

2.60 [66]

PEDAL ASSEMBLY IS COMPATIBLE WITH TILTON ENGINEERING 73, 74, 75 OR 76 SERIES MASTER CYLINDERS AT THE CLUTCH PEDAL LOCATION AND ARE SOLD SEPARATELY

77, 78 SERIES MASTER CYLINDERS ARE TO BE USED AT THE BRAKE PEDAL LOCATION AND ARE SOLD SEPARATELY

76/78 SERIES MASTER CYLINDERS SHOWN HERE ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT INCLUDED WITH PEDAL ASSEMBLY

NOTES:
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TILTON ENGINEERING, INC. (805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: PEDAL ASSEMBLY, OVERHUNG, PIVOT TYPE BRAKE MASTERS
INSTALLATION DRAWING, TWO PEDAL, THREE CYLINDER, OVERHUNG MOUNT, ALUMINUM

DRN BY	CHK'D	SCALE	DWG	REV
LUND	WAHL	1 : 2	6343	NC
P/N 72-808	DATE 7/13/2016	SHEET 1 OF 1		

2-Pedal | Firewall-Mount

800 series

*

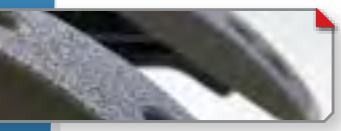
Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**5.5 lbs (2.5kg)**
P/N:	**72-807**

Typical Applications

- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting

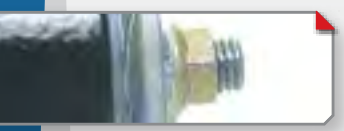
7/16" high-efficiency balance bar, combined with 78-Series pivot-mount master cylinders (sold separately), is designed to limit motion to the horizontal plane, reducing friction and brake pressure migration through braking zones.

Provides repeatability corner-to-corner and inspires driver confidence.

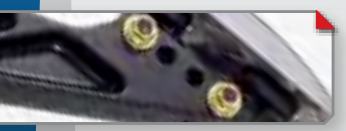


Forged aluminum pedals with adjustable (vertical & horizontal) foot pads and anti-slip surfaces. Pedal ratio adjustable 5.0:1 to 6.2:1.

Lightweight permanent-mold cast aluminum frame.



Pedal pivots feature wave washers to reduce lateral pedal movement and oil impregnated bronze bushings decrease stiction.



Foot pads can be adjusted vertically, horizontally and in angle to suit individual driver preferences.

600-Series Hanging Throttle Pedal see page 62

P/N 72-615

Weight: 1.70 lbs (0.77 kg)

Shown with optional throttle linkage kit

Mechanical type (shown): P/N **72-791**

Drive-by-wire type: P/N **72-792***

** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

Optional Components

Master Cylinders	*Page*
78-Series Master Cylinders (brake)	76
76-Series Master Cylinders (clutch)	77

Accessories	*Page*
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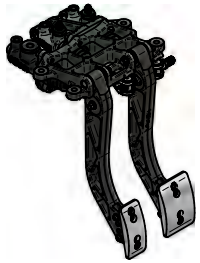
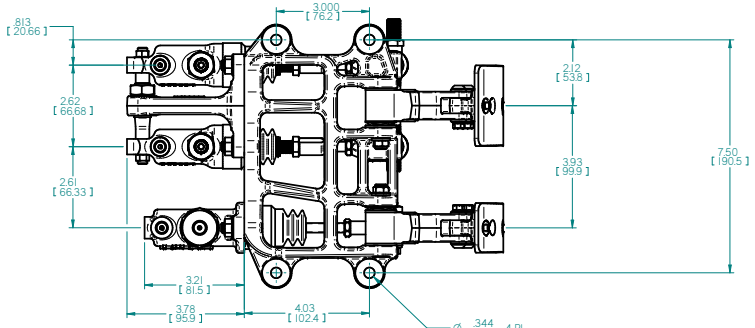
Brake Bias Adjusters	84
Proportioning Valves	85
Flow Control Valve	85

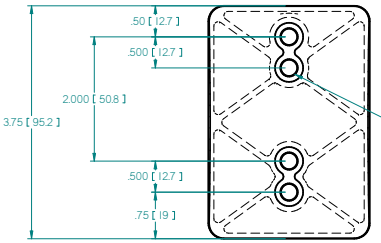
** Does not include master cylinders*

Detailed Pedal Assembly Drawing

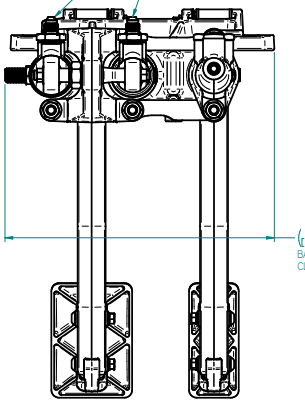
REV	ECN	DATE	BY	CHANGE OR ADDITION



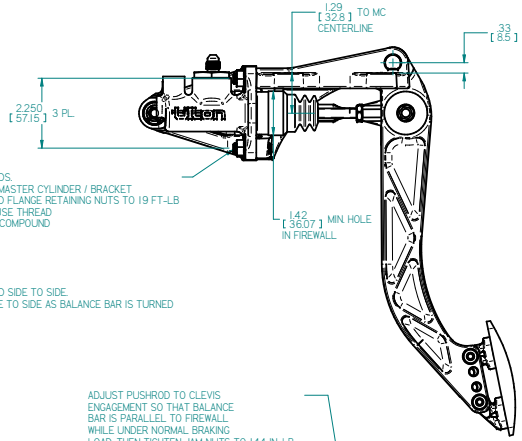




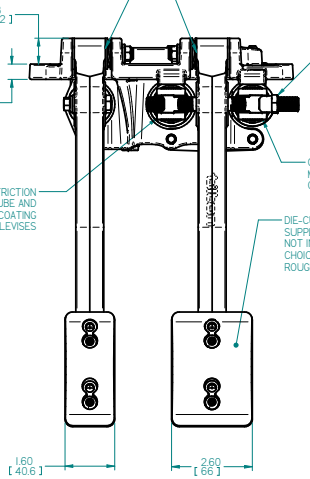
PLUMBING MUST BE FLEXIBLE LINES AT INLET AND OUTLET OF PIVOT TYPE MASTER CYLINDERS. MASTER CYLINDERS MUST BE ALLOWED TO MOVE SLIGHTLY DURING ADJUSTMENT AND USE.



BALANCE BAR FIXED SIDE TO SIDE.
CLEVIS MOVES SIDE TO SIDE AS BALANCE BAR IS TURNED



5/16 STUDS.
TORQUE MASTER CYLINDER / BRACKET SERRATED FLANGE RETAINING NUTS TO 19 FT-LB
DO NOT USE THREAD LOCKING COMPOUND



LOW FRICTION OIL-IMPREGNATED BUSHINGS ON PEDAL PIVOTS

JAM NUT SECURES BIAS BAR SETTING.

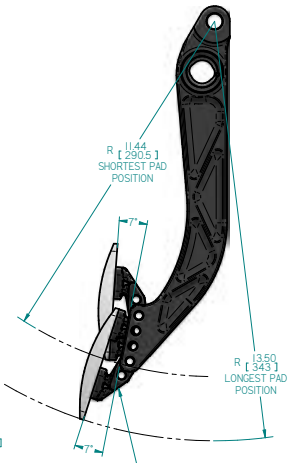
FOR REMOTE CABLE ADJUSTER, REMOVE JAM NUT AND SECURE CABLE TO END OF BIAS BAR WITH CABLE COUPLER

CLEVIS DESIGNED FOR MINIMUM FREE PLAY WITH OR WITHOUT JAM NUTS

LOW FRICTION DRY LUBE AND HARD COATING ON CLEVISES

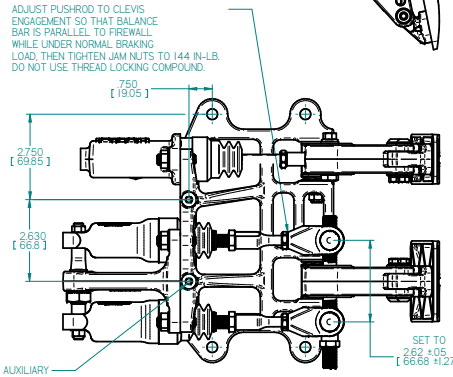
DIE-CUT ANTI-SLIP TAPE SUPPLIED WITH KIT BUT NOT INSTALLED, GIVING CHOICE OF SMOOTH OR ROUGH PAD SURFACES.

PEDAL RATIO WILL VARY FROM 5.0:1 TO 6.2:1 BASED ON PEDAL PAD POSITION.



INTERMEDIATE PAD ADAPTER MOUNT ALLOWS FOR PAD VERITCAL ADJUSTMENT AND PAD ANGLE CHANGE.

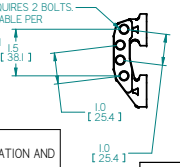
ADJUST PUSHROD TO CLEVIS ENGAGEMENT SO THAT BALANCE BAR IS PARALLEL TO FIREWALL WHILE UNDER NORMAL BRAKING LOAD, THEN TIGHTEN JAM NUTS TO 144 IN-LB. DO NOT USE THREAD LOCKING COMPOUND.



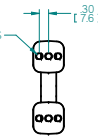
1/4-20 UNC AUXILIARY MOUNTING HOLES 2 PL.

FOR CLUTCH, DO NOT EXCEED 3 DEGREES OF PUSHROD ANGULARITY DURING STROKE OF PEDALS. PREMATURE MASTER CYLINDER WEAR MAY OCCUR.

BRACKET CONNECTION REQUIRES 2 BOLTS. USE WIDEST SPREAD AVAILABLE PER PAD ANGLE DESIRED. 1.0" BOLT SPREAD MINIMUM.



THREE SETS OF TAPPED HOLES IN PAD MOUNT ALLOW FOR SIDE-TO-SIDE ADJUSTMENT OF .30" EACH WAY



PEDAL ASSEMBLY IS COMPATIBLE WITH TILTON ENGINEERING 73, 74, 75 OR 76 SERIES MASTER CYLINDERS AT THE CLUTCH PEDAL LOCATION AND ARE SOLD SEPARATELY

77, 78 SERIES MASTER CYLINDERS ARE TO BE USED AT THE BRAKE PEDAL LOCATION AND ARE SOLD SEPARATELY

76/78 SERIES MASTER CYLINDERS SHOWN HERE ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT INCLUDED WITH PEDAL ASSEMBLY

NOTES:
1. DIMENSIONS AND TOLERANCES PER ASME Y14.5 - 2009
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES [MM].
3. DIMENSIONS ARE NOMINAL.

TILTON ENGINEERING, INC. (805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: PEDAL ASSEMBLY, FIREWALL, PIVOT TYPE BRAKE MASTERS
INSTALLATION DRAWING, TWO PEDAL, THREE CYLINDER, FIREWALL MOUNT, ALUMINUM

DRN BY	LUND	CHK'D	WAHL	SCALE	1 : 2	DWG	6346	REV	NC
P/N	72-807	DATE	9/7/2016	SHEET	1 OF 1				

3-Pedal | Floor-Mount

900 series

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**5.0 lbs (2.3 kg)**
P/N:	**72-903**

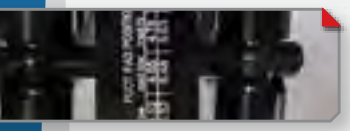
Typical Applications

- Road Racing
- Endurance
- Open Wheel/Formula
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting
- Time Attack

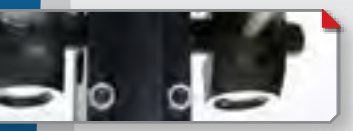
Ultra-efficient trunnion-type balance bar, combined with 78-Series pivot-mount master cylinders (sold separately), virtually eliminates brake pressure migration through braking zones. Provides the ultimate in repeatability corner-to-corner and inspires the highest driver confidence.

Billet aluminum pedal frame and pedals with adjustable foot pads and anti-slip surfaces.

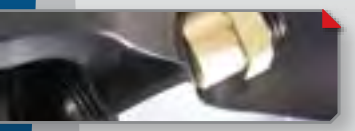
7/16"-20 balance bar allows front/rear brake bias adjustments and maximum rigidity.



8 ratios available (4.52:1, 4.65:1, 4.78:1, 4.91:1, 5.32:1, 5.48:1, 5.63:1, 5.80:1), enabling the brake pedal to be tuned for driver preference without changing the master cylinder bore size.



Integrated angle limit in case of front or rear brake circuit failure. Longer clevis for increased front master cylinder stroke.



Adjustable throttle pedal stops limit pedal movement in both directions and adjustable clutch pedal stop prevents clutch over-stroking.

** Does not include master cylinders*

Throttle linkage kit

Mechanical type (shown): **P/N 72-791**

Drive-by-wire type: **P/N 72-792***

** Designed for use with Penny & Giles TPS2800DP and Variohm Euro XPD sensors.*

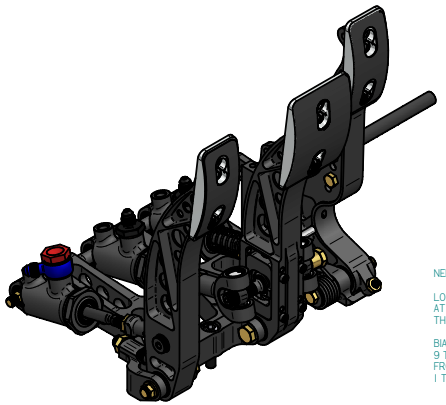
Optional Components

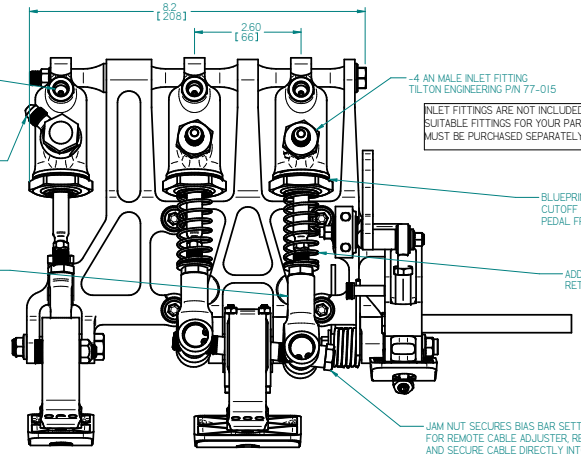
Master Cylinders	*Page*
78-Series Master Cylinders	76

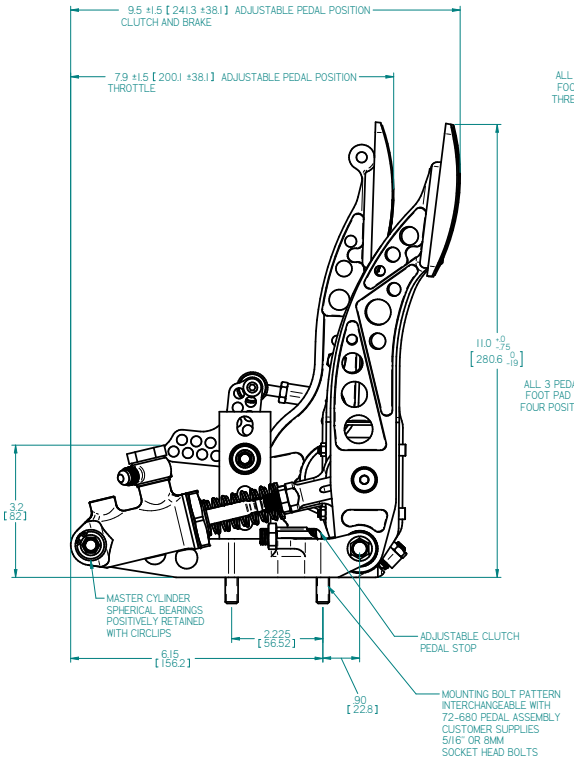
Accessories	*Page*
3-Chamber Reservoirs	82
Brake Bias Adjusters	84
Proportioning Valves	85
Flow Control Valve	85

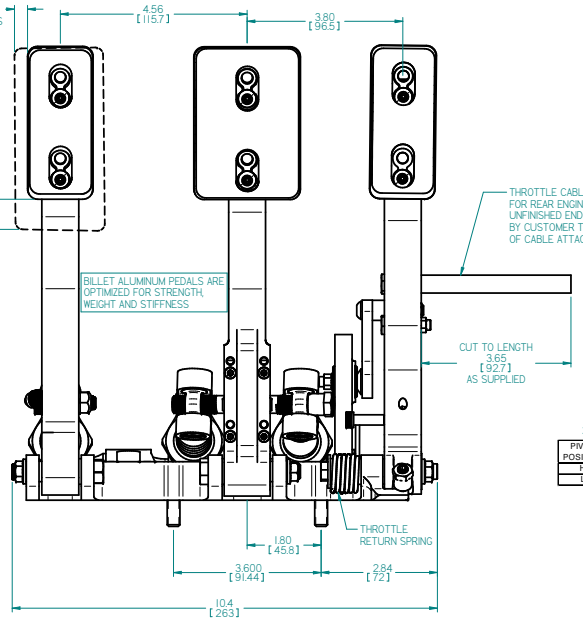
Detailed Pedal Assembly Drawing

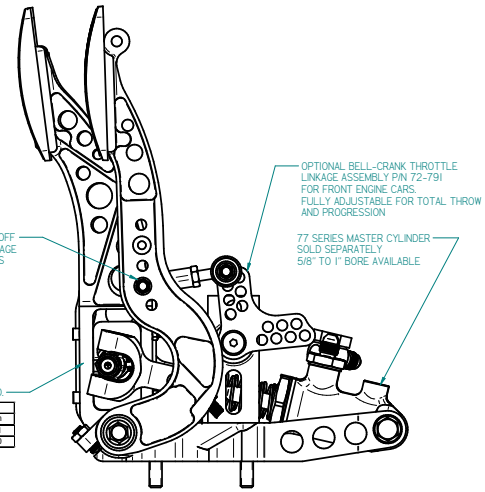
REV	ECN	DATE	BY	CHANGE OR ADDITION
B	1102	9/18/13	LUND	ADDED DUAL DIMENSIONS











2 POSITION ADJUSTABLE PEDAL RATIO.

PIVOT POSITION	FOOT PAD POSITION			
	low	med-low	med-hi	high
H	4.52	4.65	4.78	4.91
L	5.32	5.48	5.63	5.80

NOTES:
1. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE INCHES [MM].
2. DIMENSIONS ARE NOMINAL.
3. WEIGHT 5.00 LB, AS SUPPLIED. NO MASTER CYLINDERS, NO 72-791 LINKAGE

TILTON ENGINEERING, INC.
(805) 688-2353 FAX (805) 688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: CUSTOMER INSTALLATION DRAWING
FLOOR MOUNT PIVOT MOUNT PEDAL ASSEMBLY

DRN BY	CHK'D	SCALE	DWG	REV
VANSCHMUS		.75	4955	B
P/N 72-903	DATE 06/25/05	SHEET 1 OF 1		

2-Pedal | Overhung-Mount

900 series

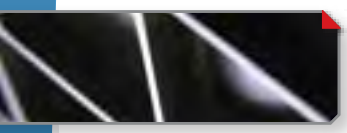
*

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**4.4 lbs (2.0 kg)**
P/N:	**72-902**

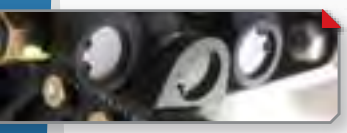
Typical Applications

- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting

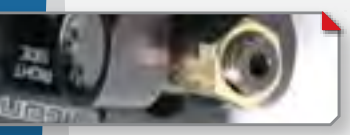
Ultra-efficient trunnion-type balance bar, combined with 78-Series pivot-mount master cylinders (sold separately), virtually eliminates brake pressure migration through braking zones. Provides the ultimate in repeatability corner-to-corner and inspires the highest driver confidence.



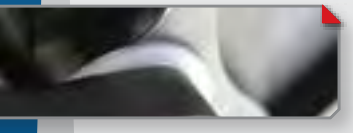
Billet aluminum pedal frame and pedals with adjustable foot pads and anti-slip surfaces.



7/16"-20 balance bar allows front/rear brake bias adjustments. 3 ratios achievable (6.2:1, 5.5:1, 4.7:1), enabling the brake pedal to be tuned for driver preference without changing the master cylinder bore size.



Integrated angle limit in case of front or rear brake circuit failure. Longer clevis for increased front master cylinder stroke.



Needle bearings utilized at all pedal pivots.

Adjustable clutch pedal stop prevents clutch over-stroking.

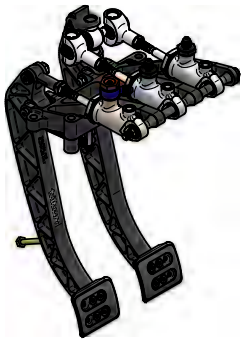
** Does not include master cylinders*

Optional Components

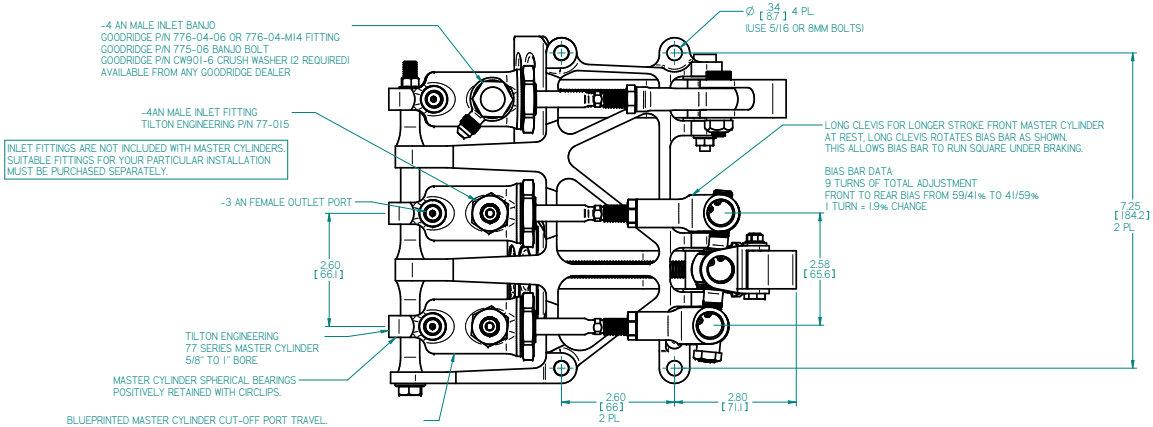
Master Cylinders	*Page*
78-Series Master Cylinders	76

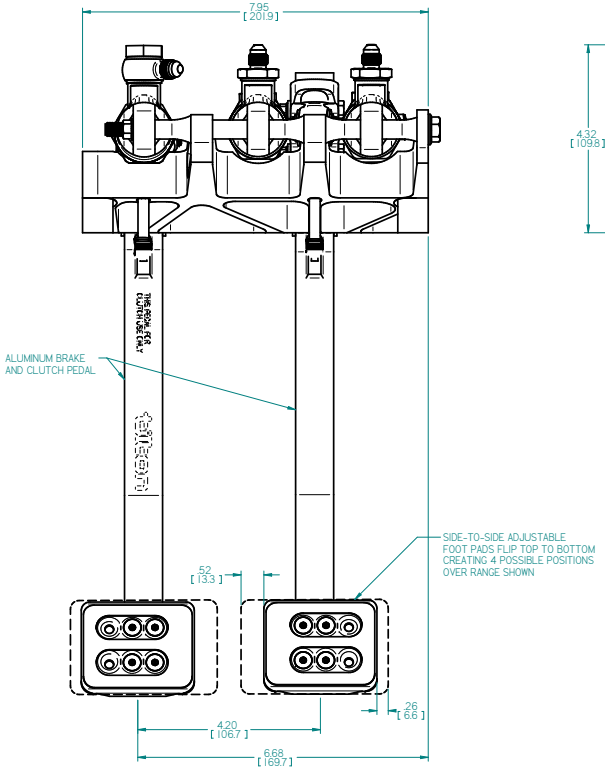
Accessories	*Page*
3-Chamber Reservoirs	82
Brake Bias Adjusters	84
Proportioning Valves	85
Flow Control Valve	85

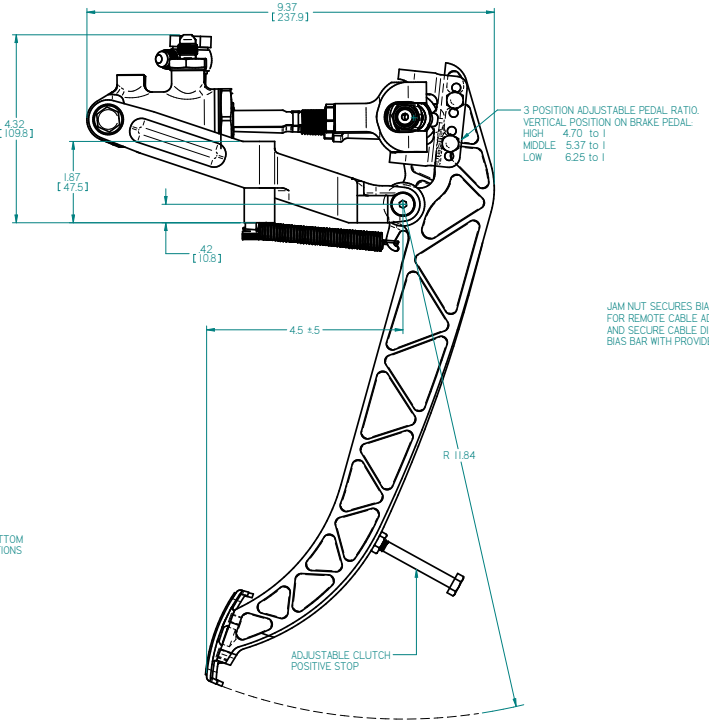
Detailed Pedal Assembly Drawing

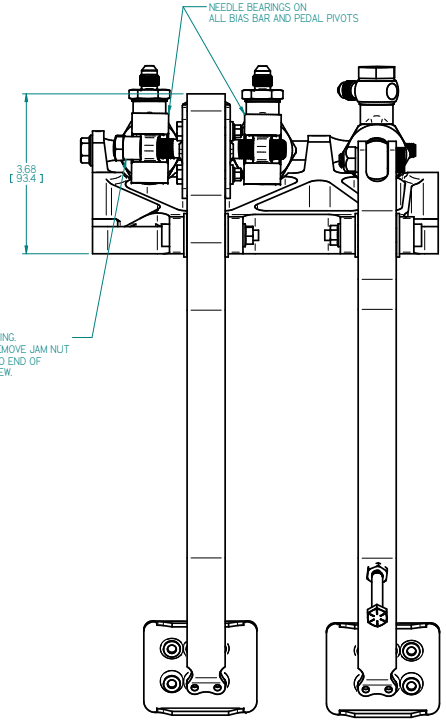


ZONE	CHK'D	DATE	REV	ECN	CHANGE OR ADDITION
ALL	LUND	10/10/13	A	1102	ADDED DUAL DIMENSIONS









NOTES:
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2. DIMENSIONS ARE NOMINAL

TILTON ENGINEERING, INC. (805)688-2353 FAX (805)688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: INSTALLATION DRAWING
OVERHUNG PIVOT MOUNT PEDAL ASSEMBLY

DRN BY	CHK'D	SCALE	DWG
CHAMBERS		3 : 4	4890
P/N 72-902	DATE 12/20/04	SHEET 1 OF 2	

2-Pedal | Firewall-Mount

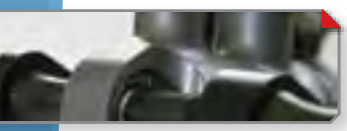
900 series

*

Pedal Material:	**Aluminum**
Ratio:	**Varies**
Weight:	**4.9 lbs (2.2 kg)**
P/N:	**72-901**

Typical Applications

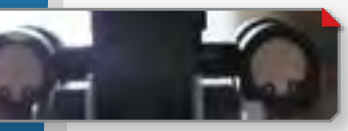
- Road Racing
- Endurance
- Off Road
- High Performance Street/Strip
- Circle Track
- Rally
- Drifting



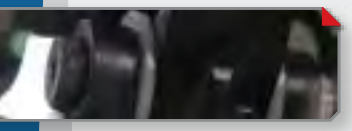
Pivot-mount master cylinders and fixed "gimbal-type" balance bar virtually eliminates the common problem of brake bias migration through the braking zone.

Billet aluminum frame and clutch pedal with adjustable foot pads and anti-slip surface.

Billet steel brake pedal with adjustable foot pads and anti-slip surface (meets NASCAR rules).



7/16"-20 balance bar allows front/rear brake bias adjustments. 3 ratios achievable (6.2:1, 5.5:1, 4.7:1), enabling the brake pedal to be tuned for driver preference without changing the master cylinder bore size.



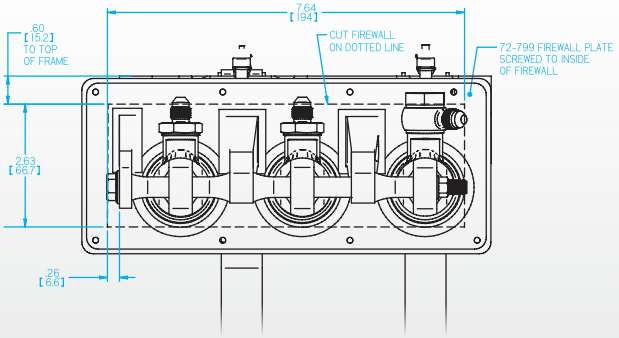
Needle bearings utilized at all pedal pivots.

Adjustable clutch pedal stop prevents clutch over-stroking.

Firewall Plate kit

Designed specifically for the 900-Series Firewall-mount pedal assembly, this plate creates a barrier between engine compartment and cockpit.

Firewall Plate: **P/N 72-799**



Optional Components

Master Cylinders	*Page*
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Accessories	*Page*
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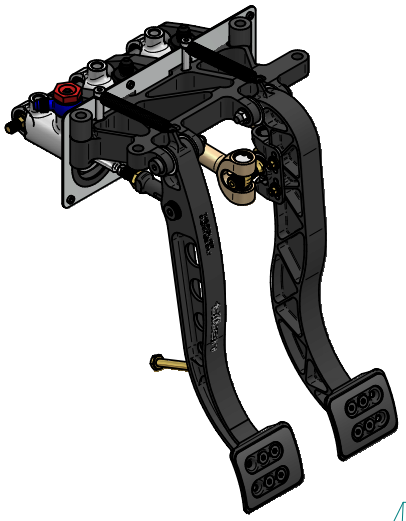
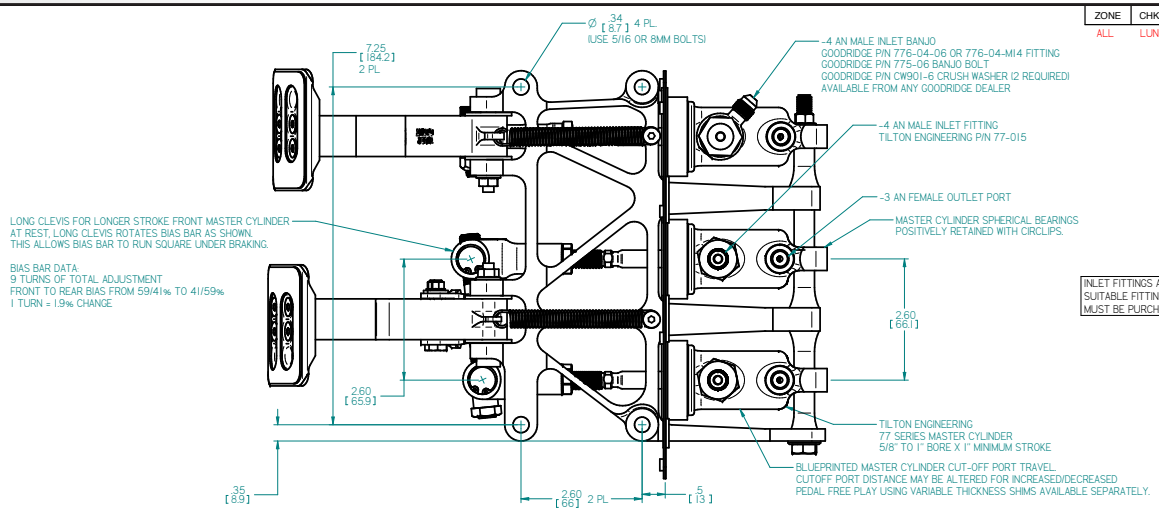
Flow Control Valve	85

* *Does not include master cylinders*

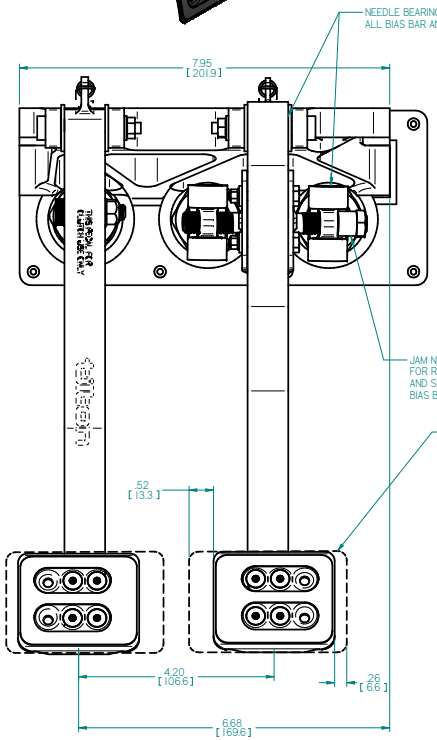
Detailed Pedal Assembly Drawing

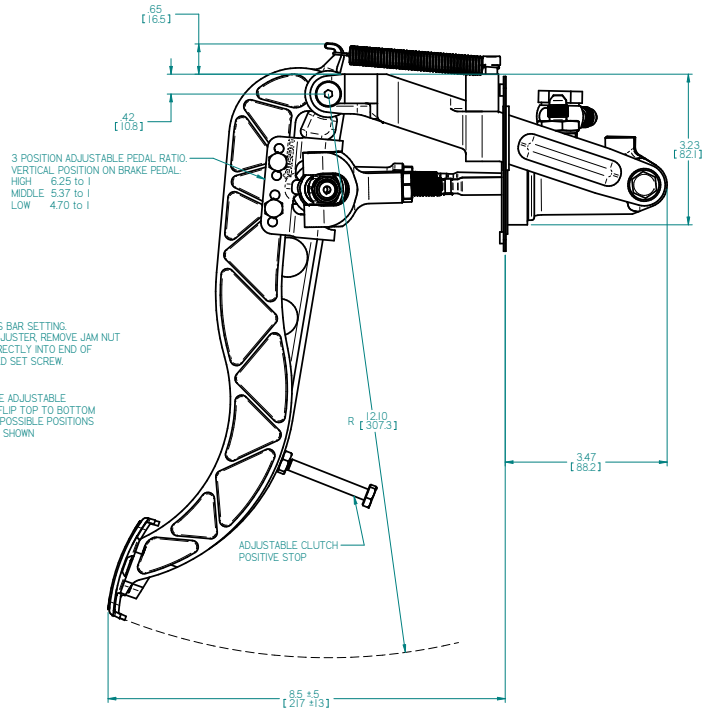


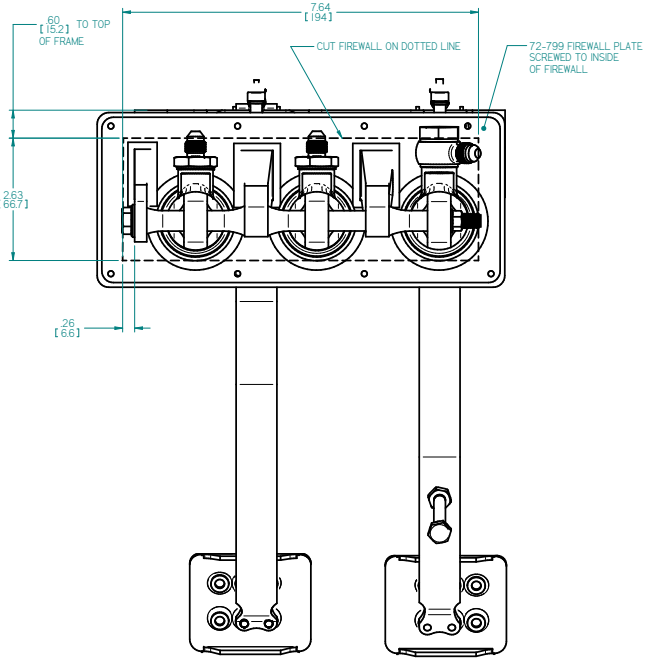
ZONE	CHK'D	DATE	REV	ECN	CHANGE OR ADDITION
ALL	LUND	10/10/13	A	1102	ADDED DUAL DIMENSIONS



INLET FITTINGS ARE NOT INCLUDED WITH MASTER CYLINDERS.
SUITABLE FITTINGS FOR YOUR PARTICULAR INSTALLATION
MUST BE PURCHASED SEPARATELY.







NOTES:
1. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE INCHES, [MM].
2. DIMENSIONS ARE NOMINAL

TILTON ENGINEERING, INC. (805)688-2353 FAX (805)688-2745
25 EASY STREET P.O. BOX 1787 BUELLTON, CALIFORNIA 93427 USA

TITLE: INSTALLATION DRAWING
PIVOT MOUNT PEDAL ASSEMBLY

DRN BY	VANSCHMUS	CHK'D		SCALE	3 : 4	DWG	4839
P/N	72-901	DATE	10/20/04	SHEET	1 OF 1		

Master Cylinders | 78-Series

78-Series master cylinders offer the latest in racing master cylinder technology in a very lightweight and compact design. The rear spherical bearing mount and one-piece piston/pushrod eliminate side thrust into the master cylinder bore, providing consistent and repeatable braking. 78-Series master cylinder are primarily designed for use with Tilton 800-Series and 900-Series pedal assemblies, but can also be adapted to other applications..

Features

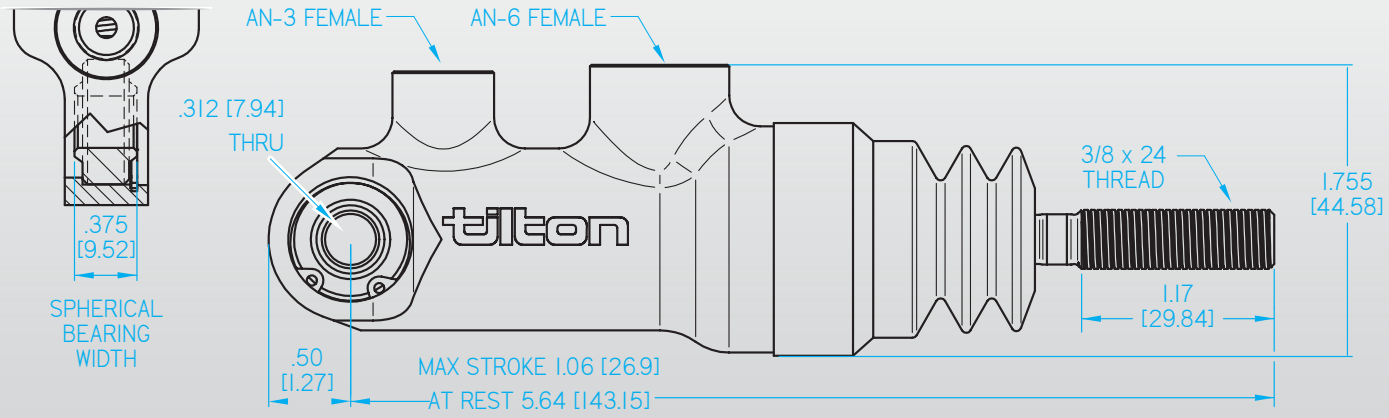
- Directly interchangeable with 77-Series master cylinders
- Billet aluminum body with proprietary low-friction coatings minimize wear and provide smooth operation
- Rear spherical bearing mount and one-piece piston/pushrod eliminate side thrust loads into the master cylinder bore, providing consistent and repeatable braking
- Hand-built and blueprinted for cut-off port travel
- O-ring seal at the main rod guide and body interface
- 1.1" of stroke
- AN-3 outlet port
- AN-6 crush washer seal inlet port
- Weighs .40 lbs (varies by bore size).

Bore Size	Part Numbers
5/8" (15.88mm)	**78-625**
7/10" (17.78mm)	**78-700**
3/4" (19.05mm)	**78-750**
13/16" (20.64mm)	**78-812**
7/8" (22.23mm)	**78-875**
15/16" (23.81mm)	**78-937**
1" (25.40mm)	**78-1000**

Optional Component	*Part Number*
Inlet Fitting	
AN-6 crush washer seal to AN-4 male	77-015

Service Parts

Bore Size	Seal	Seal Shim	Spring	Guide Pin	Bearing
5/8"	75-310	75-060	75-010	75-020	COM-5
7/10"	75-311	75-061	75-010	75-020	COM-5
3/4"	75-312	75-062	75-010	75-020	COM-5
13/16"	75-313	75-063	75-010	75-020	COM-5
7/8"	75-314	75-064	75-010	75-020	COM-5
15/16"	75-315	75-065	75-010	75-020	COM-5
1"	75-316	75-066	75-010	75-020	COM-5



Not designed for use with Anti-lock Brake Systems (ABS)

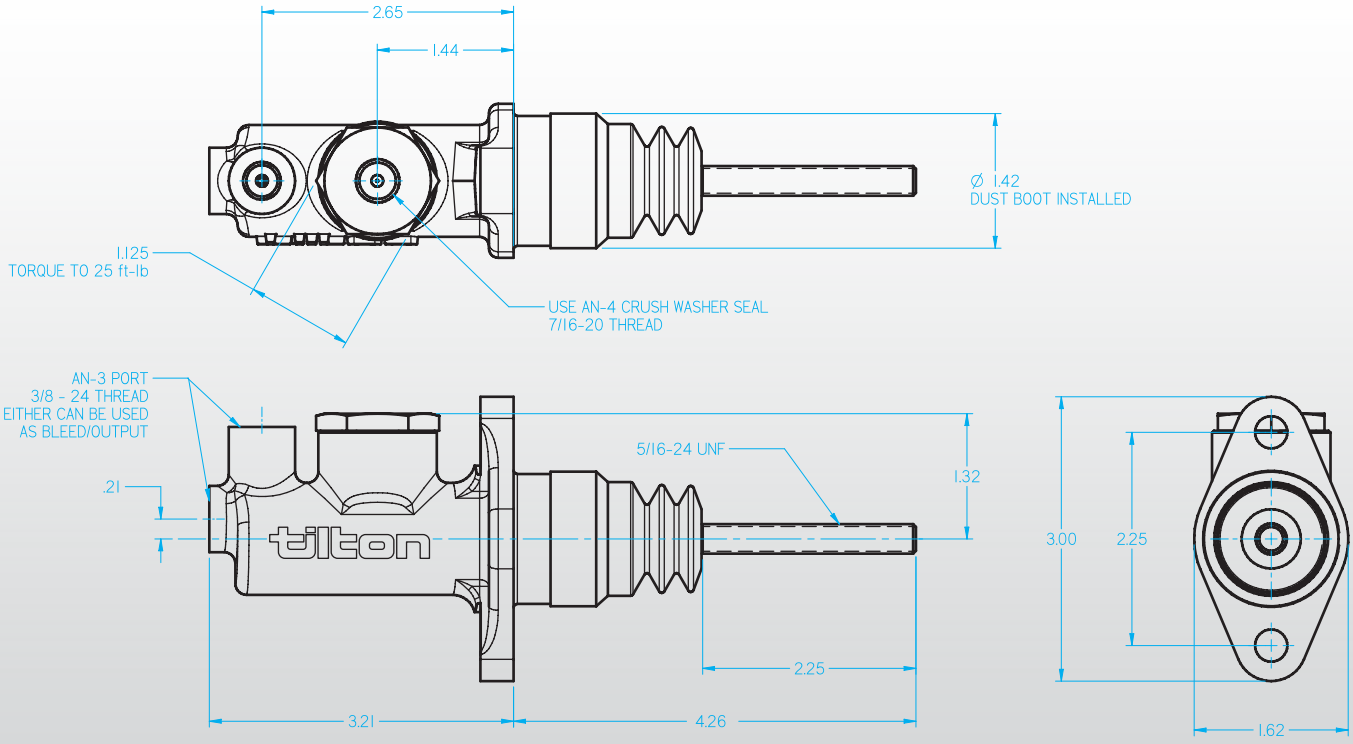
M/C 76-Series

76-Series master cylinders share a similar compact body as the Tilton 75-Series, but feature an AN-4 (7/16"-20) inlet port adapter, designed to accept AN-4 fittings when remote-mounted reservoirs are used. Dual outlet ports allow for flexibility for brake line plumbing and enables maximum clearance.

Features

- Aluminum alloy body is black anodized for corrosion resistance.
- 1.1" of stroke provides the fluid displacement needed for a wide variety of applications.
- Industry standard 2.25" (center-to-center) front flange mount.
- Dual AN-3 outlet ports.
  Top and rear port options allow for greater flexibility with plumbing. Factory installed port plug can be removed so that a bleed fitting, brake pressure sensor or brake light switch could be fitted.
- Top outlet port is compatible with both AN-3 and banjo fittings. Both outlet ports can be used with standard fitting without the need for modification or adapters.
- AN-4 inlet port adapter.
- Weighs .69 lbs (varies by bore size).

Bore Size	Part Numbers
5/8" (15.88mm)	**76-625**
7/10" (17.78mm)	**76-700**
3/4" (19.05mm)	**76-750**
13/16" (20.64mm)	**76-812**
7/8" (22.23mm)	**76-875**
1" (25.40mm)	**76-1000**



Not designed for use with Anti-lock Brake Systems (ABS)

M/C 75-Series Kits

75-Series master cylinders are designed for applications where space limitations require a compact master cylinder. 75-Series master cylinders are 2.4" shorter than 74-Series master cylinders, but maintain a full 1.1" of stroke.

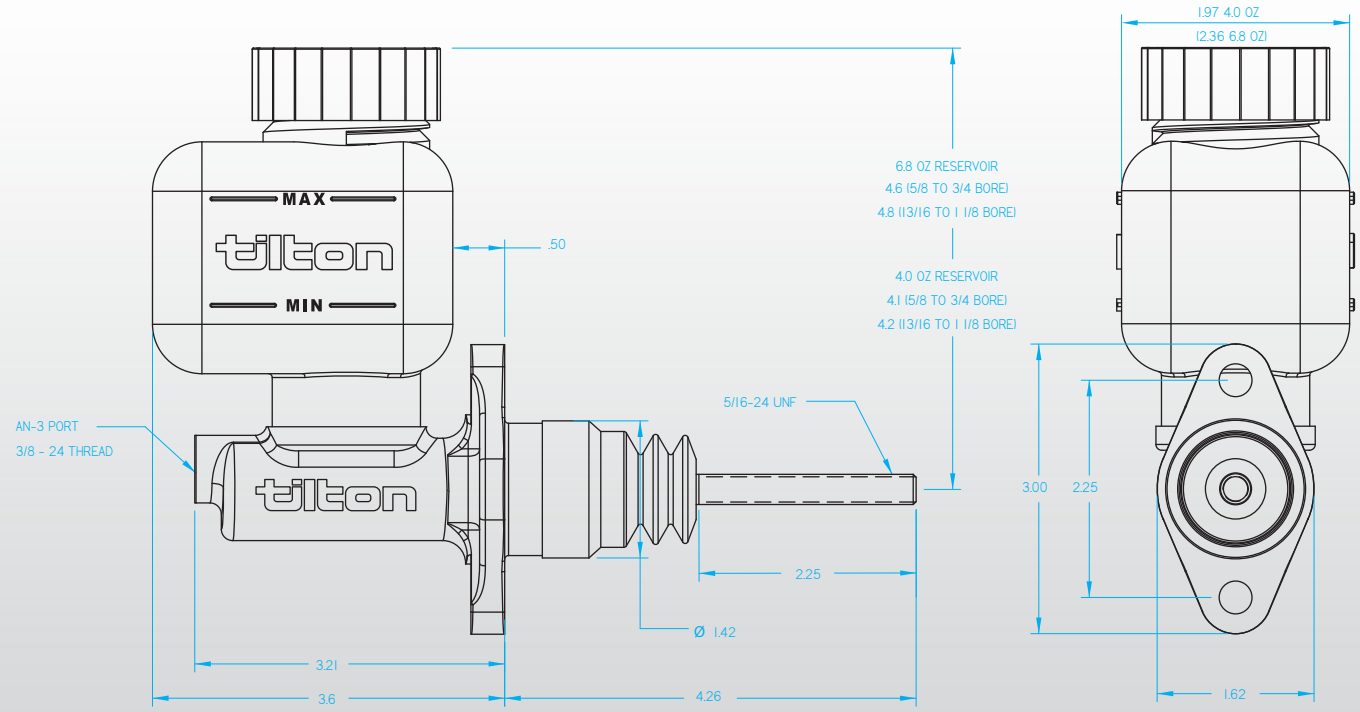
Universal Kit Includes

Master cylinder, 4.0 oz and 6.8 oz reservoirs (with filters and clamps), remote reservoir mounting components and fittings.

Features

- Aluminum alloy body is black anodized for corrosion resistance.
- 1.1" of stroke provides the fluid displacement needed for a wide variety of applications.
- Industry standard 2.25" (center-to-center) front flange mount.
- AN-3 outlet port.
- Weighs .63 lbs (varies by bore size).

Bore Size	Part Numbers
5/8" (15.88mm)	**75-625U**
7/10" (17.78mm)	**75-700U**
3/4" (19.05mm)	**75-750U**
13/16" (20.64mm)	**75-812U**
7/8" (22.23mm)	**75-875U**
1" (25.40mm)	**75-1000U**



Not designed for use with Anti-lock Brake Systems (ABS)

M/C 74-Series Kits

74-Series master cylinder kits offer great flexibility at an affordable price. Continuously improved since their introduction in 1986, the venerable 74-Series master cylinder has become a trusted favorite of car builders and race teams due to its reliability and value.

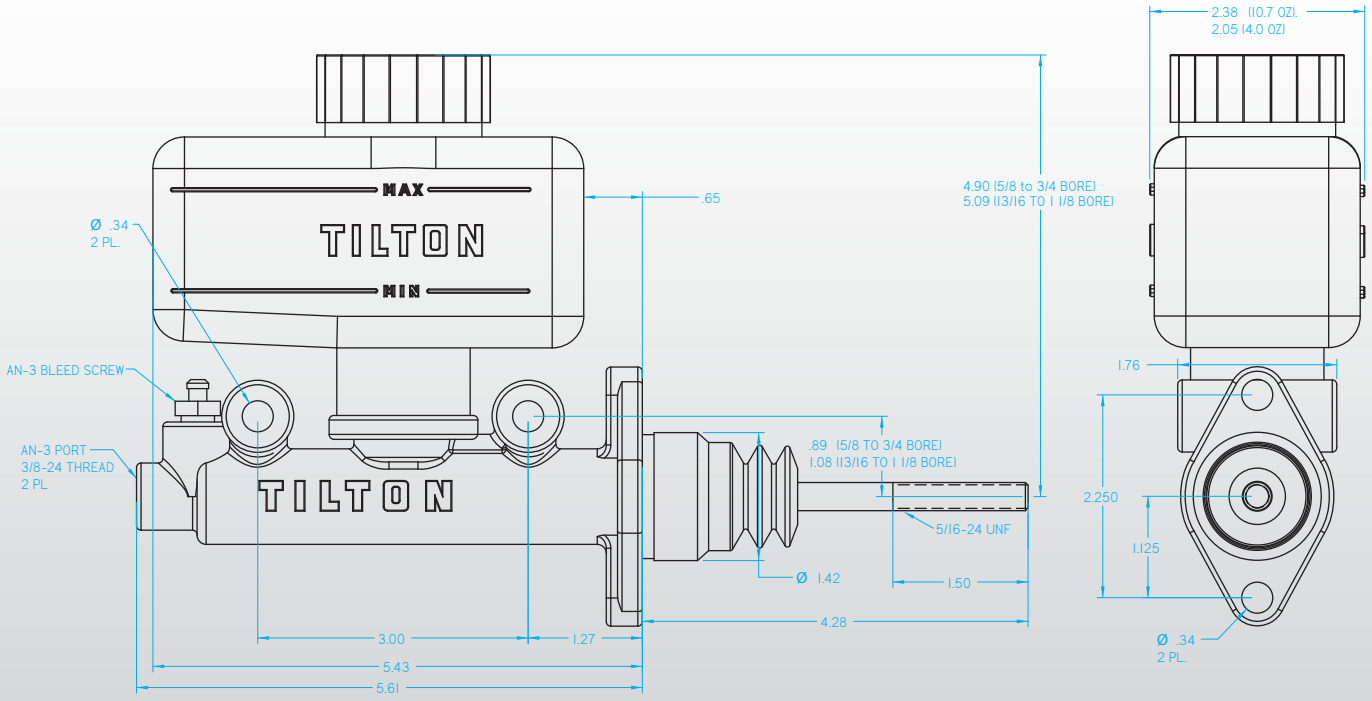
Universal Kit Includes

Master cylinder, 4.0 oz and 10.7 oz reservoirs (with filters and clamps), remote reservoir mounting components and fittings.

Features

- Aluminum alloy body is clear anodized for corrosion resistance.
- 1.1" of stroke provides the fluid displacement needed for a wide variety of applications.
- Industry standard 2.25" (center-to-center) front flange mount and side-mounting options.
- Dual AN-3 outlet ports provide flexibility for brake line routing.
- Weighs .94 lbs (varies by bore size).

Bore Size	Part Numbers
5/8" (15.88mm)	**74-625U**
7/10" (17.78mm)	**74-700U**
3/4" (19.05mm)	**74-750U**
13/16" (20.64mm)	**74-812U**
7/8" (22.23mm)	**74-875U**
1" (25.40mm)	**74-1000U**
1 1/8" (28.58mm)	**74-1125U**



Not designed for use with Anti-lock Brake Systems (ABS)

M/C 73-Series

73-Series master cylinders are designed for applications that require large fluid capacity in a leak-proof integral reservoir. These cylinders are also unique in that they may be temporarily inverted without loss of fluid.

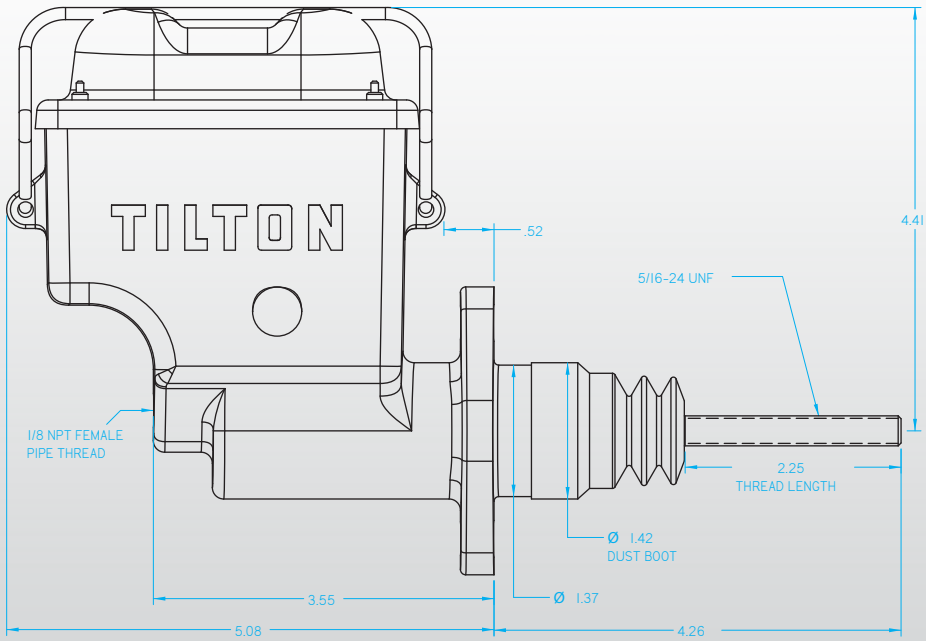
Fluid chamber is completely sealed from the outside environment while still allowing fluid level changes.

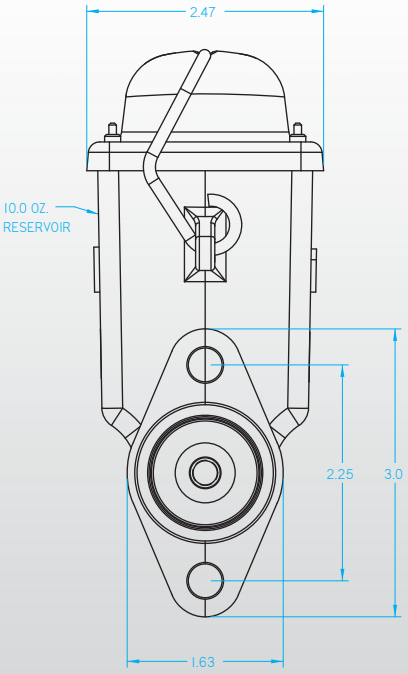
Available in the most popular bore sizes, these cylinders are an affordable solution for the budget racer.

Bore Size	Part Numbers
3/4" (19.05mm)	**73-750**
7/8" (22.23mm)	**73-875**
1" (25.40mm)	**73-1000**

Features

- High pressure die-cast aluminum body provides a machined-look finish.
- 1.1" of stroke provides the fluid displacement needed for a wide variety of applications.
- Industry standard 2.25" (center-to-center) front flange mount.
- Integral 10.0 oz reservoir provides plentiful fluid capacity.
- Internal baffle within reservoir keeps port covered with fluid if reservoir fluid level runs low.
- Bellow forms a non-vented seal and keep elements away from brake fluid.
- Lid designed for easy removal. Features a high-tensile steel spring closure, designed to provide consistent clamp force, for a leak proof seal.
- 1/8" NPT outlet port, shrouded underneath reservoir to minimize the chance of fitting damage.
- Weighs 1.40 lbs (varies by bore size).





Not designed for use with Anti-lock Brake Systems (ABS)

M/C Rebuild Kits Service Parts

Master Cylinder Rebuild Kits

Includes master cylinder internals and dust boot.

Bore Size	74-Series	75-Series	76-Series	78-Series
5/8" (15.88mm)	74-625RK	75-625RK	76-625RK	78-625RK
7/10" (17.78mm)	74-700RK	75-700RK	76-700RK	78-700RK
3/4" (19.05mm)	74-750RK	75-750RK	76-750RK	78-750RK
13/16" (20.64mm)	74-812RK	75-812RK	76-812RK	78-812RK
7/8" (22.23mm)	74-875RK	75-875RK	76-875RK	78-875RK
15/16" (23.81mm)	74-937RK	75-937RK	76-937RK	78-937RK
1" (25.40mm)	74-1000RK	75-1000RK	76-1000RK	78-1000RK
1 1/8" (28.58mm)	74-1125RK	75-1125RK	N/A	N/A

Master Cylinder Service Parts

Description	Label	74-Series	75-Series	76-Series
Reservoir, 4.0 oz	A	74-202	74-202	N/A
Reservoir, 6.8 oz	B	74-203	74-203	N/A
Reservoir, 10.7 oz	C	74-204	74-204	N/A
Filter, 4.0 and 6.8 oz reservoirs	D	74-210	74-210	N/A
Filter, 10.7 oz reservoirs	E	74-211	74-211	N/A
Cap, reservoir	F	74-207	74-207	N/A
Clamp, reservoir	G	74-208	74-208	N/A
O-ring, master cylinder/reservoir	N/A	74-212-B	74-212-A	N/A
Pushrod	N/A	74-400	75-030	75-030
Remote reservoir mount bracket with o-ring	H	74-212	74-212	N/A
Remote Inlet Adapter	I	74-200	74-200	N/A
O-ring, remote mount bracket	N/A	74-212-A	74-212-A	N/A
Hose Kit, 96", incl. 6 clamps	N/A	74-221	74-221	N/A
Hose, 24"	J	74-214	74-214	N/A
Hose, bulk, sold by the foot	N/A	72-502	72-502	N/A
Fitting, union, AN-3 male/male	K	73-820	73-820	73-820
Fitting, AN-3 male to 3/16" female	L	TE2089-188L	TE2089-188L	TE2089-188L
Bleedscrew, AN-3	N/A	28696	N/A	N/A

Reservoirs | 3-Chamber

Features

- Fiberglass reinforced nylon material.
- Three separate internal reservoirs allow for complete evacuation of one without affecting the remaining two.
- Gasket-sealed removable lid allows for easy cleaning.
- Reservoir lid features safety screens to prevent foreign objects (nuts, bolts) from falling into reservoir.
- Leak-proof baffle design ensures that fluid remains in reservoir.
- Convenient fluid level indicator windows on the reservoir body.
- 2-hole mount provides simple installation onto firewall/bulkhead.
- Two model available; Push-on type for use with rubber hose and clamps, or AN-4 type for use with AN-4 braided lines.

Tilton's popular 3-Chamber Aluminum Reservoir is now available in a newly designed plastic version. These new reservoirs incorporate many features found in the billet aluminum version at a price that meets most budgets.

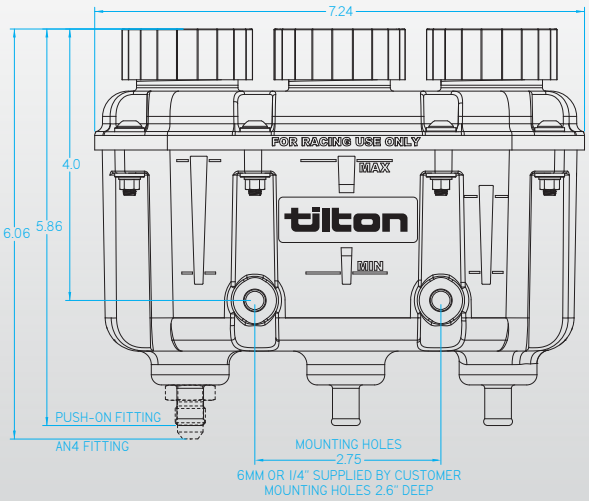
There is no longer a reason to use three separate reservoirs — this reservoir combines the three into one convenient package.

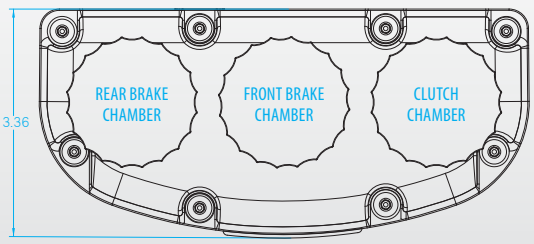
Rear Brake Chamber	Front Brake Chamber	Clutch Chamber
8.9 oz (263 ml)	**10.3 oz (313 ml)**	**4.6 oz (136 ml)**

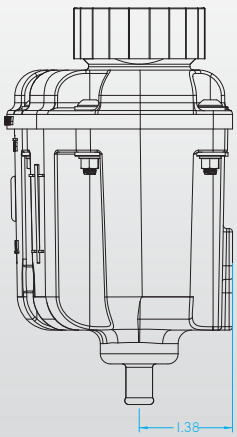
Description	Part Numbers
Reservoir - Push-on type	72-576
Reservoir - AN-4 Fitting type	72-577

Service Parts	*Part Numbers*
Replacement cap, less baffle	72-576-6
Cap baffle, funnel-type	72-576-4
Lid gasket	72-576-3

Hose Kit available for use with Tilton reservoirs.
96" length with 6 clamps.
(P/N 74-221)







- WARNING -
PTFE, EPDM or SBR hose must be used.

3-Chamber Low Profile

Available March 2017

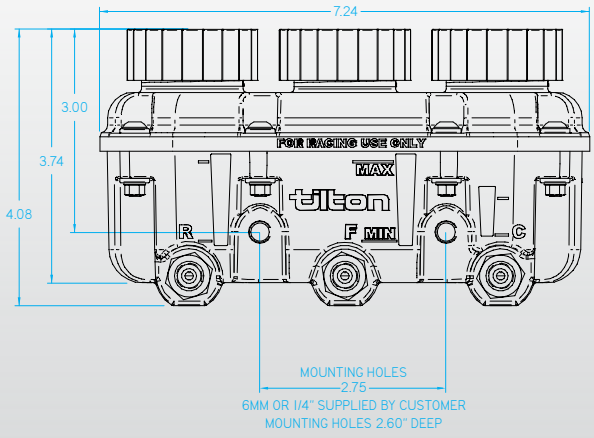
Low profile version of Tilton's popular 3-chamber reservoir. Designed to fit in applications where there are space and/or height limitations.

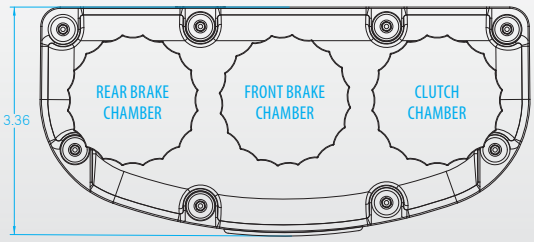
Rear Brake Chamber	Front Brake Chamber	Clutch Chamber
4.0 oz (117 ml)	**6.1 oz (182 ml)**	**2.0 oz (59 ml)**

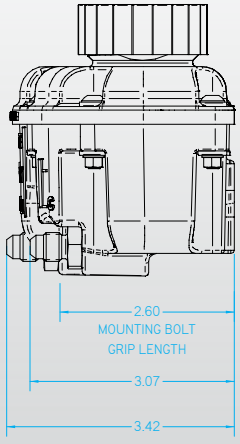
Features

- Fiberglass reinforced nylon material.
- Three separate internal reservoirs allow for complete evacuation of one without affecting the remaining two.
- Gasket-sealed removable lid allows for easy cleaning.
- Reservoir lid features safety screens to prevent foreign objects (nuts, bolts) from falling into reservoir.
- Leak-proof baffle design ensures that fluid remains in reservoir.
- Convenient fluid level indicator windows on the reservoir body.
- 2-hole mount provides simple installation onto firewall/bulkhead.
- AN-4 fittings for use with AN-4 braided lines.

Description	Part Numbers
Reservoir - AN-4 Fitting type	72-578
Service Parts	***Part Numbers***
Replacement cap, less baffle	72-576-6
Cap baffle, funnel-type	72-576-4
Lid gasket	72-576-3







Brake Accessories

Bias Adjusters
90° Coupler

Standard Bias Adjuster

Finger-grooved plastic adjustment knob.

- Vibration-resistant, spring-loaded dual-detent knob retention
- High quality 6-foot steel cable
- "Wind-up" resistant cable sleeve
- Includes couplers to fit 3/8"-24 and 7/16"-20 balance bars

Description	Part Number
Standard Bias Adjuster (yellow)	**72-508**
Standard Bias Adjuster (red)	**72-509**

Premium Bias Adjuster

Lightweight billet aluminum adjustment knob with rubber grip.

- Cross-action, spring loaded, dual detent system provides smooth and precise action.
- High quality 6-foot steel cable
- "Wind-up" resistant cable sleeve
- Optimized for function, durability and weight savings
- Adjuster can be easily taken apart for inspection and cleaning.
- Includes couplers to fit 3/8"-24 and 7/16"-20 balance bars

Description	Part Number
Premium Billet Bias Adjuster	**72-408**

90° Coupler for Bias Adjuster

Designed to connect remote brake bias adjusters to balance bars at a 90 degree angle. This allows the adjuster's cable to be routed so that it does not interfere with the clutch or throttle pedal.

Features

- High-quality steel bevel gears
- Compact aluminum case
- Durable black-anodized finish

Description	Part Number
90° Coupler *(3/8"-24 balance bars)*	**72-560**
90° Coupler *(7/16"-20 balance bars)*	**72-561**

Accessories

Proportioning Valves
Flow Control Valve

Lever-Type Brake Proportioning Valves

Visual reference for seven distinct positions.

- Seven notched pre-determined pressure positions
- Wide clearly labeled handle
- Precision machined billet aluminum body
- Metric or Standard inlet port

Description	Part Numbers
Lever-type, AN-3 ports *(fittings included)*	**90-1000**
Lever-type, 10mm x 1.0 ports *(fittings not included)*	**90-1003**
Rebuild kit *(all types)*	**90-1100**

Screw-Type Brake Proportioning Valves

Fine adjustments for brake pressure reduction.

- Knurled adjustment knob for sure grip
- Fine adjustment set at any point for max control
- Precision machined billet aluminum body
- Metric or Standard inlet port

Description	Part Numbers
Screw-type, AN-3 ports *(fittings included)*	**90-2000**
Screw-type, 10mm x 1.0 ports *(fittings not included)*	**90-2003**
Rebuild kit *(all types)*	**90-1100**

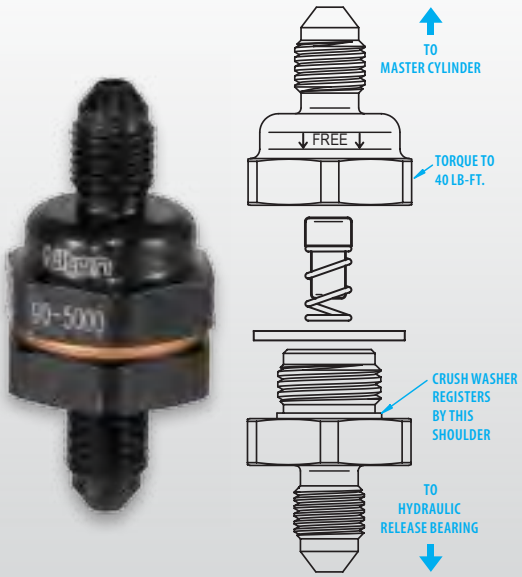
Flow Control Valve

Reduce shock loads while maintaining quick shifts and pedal feel.

Tilton's flow control valve is designed to reduce shock loads to the driveline by allowing the clutch to slip slightly during engagement. Shock load is a result of an abrupt clutch engagement when the crankshaft and input shaft speeds are not precisely matched. The flow control valve is designed to reduce the chance of losing traction when downshifting and/or the chance of damaging driveline components.

Fluid flow is not restricted during clutch disengagement. Therefore, shift times are still quick and pedal feel is not altered. The valve will have an effect on quick clutch actuations only. It will not alter fine clutch modulation.

Includes three orifice sizes (.021", .028", .040") that enable clutch engagement to be tuned. The valves features AN-3 fittings for use with most Tilton master cylinders and –3 hydraulic lines.



Description	Part Number
Flow Control Valve	**90-5000**
Replacement orifice, .021"	**90-5100-021**
Replacement orifice, .028"	**90-5100-028**
Replacement orifice, .040"	**90-5100-040**

All components are not designed for use with Anti-lock Brake Systems (ABS)

Accessories | Balance Bars

600-Series Balance Bars

Designed for use with fixed-mounted dual master cylinder systems. Allows front-to-rear brake bias adjustments.

- High-strength steel bars
- Low-friction spherical bearings
- Forged aluminum clevises
- Steel outer tube

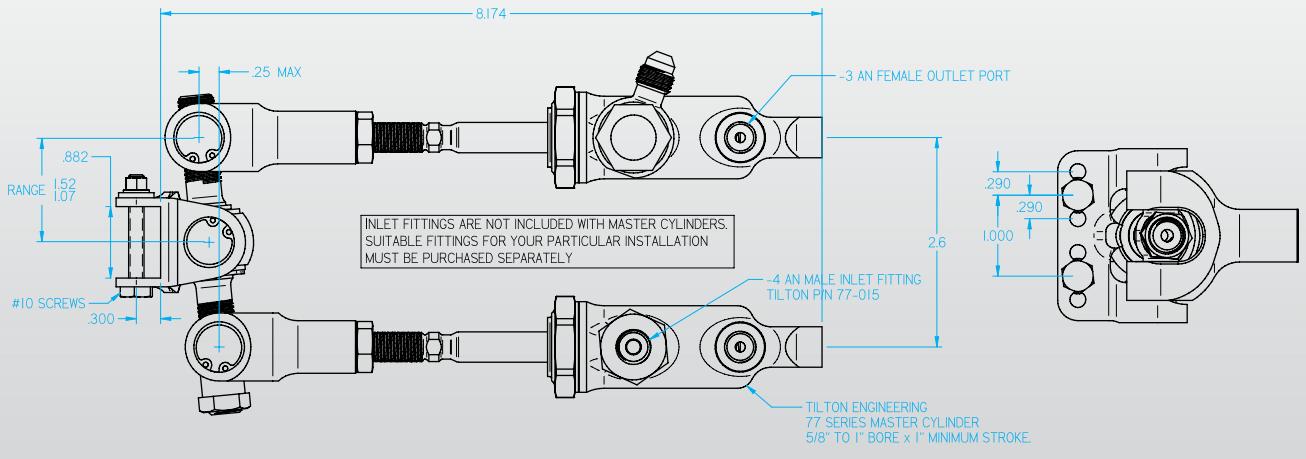
Diameter	Length	Center-to-Center	Part Numbers
3/8"-24	4.75"	2.50"	**72-250**
7/16"-20	5.20"	2.50"	**72-260**

900-Series Balance Bars

As used in Tilton 900-Series pedal assemblies, these balance bars can be adapted to customer pedal applications. Designed for use with 78-Series master cylinders, this balance bar system is engineered to maximize dual master cylinder braking systems by eliminating friction typically found in traditional balance bar systems.

- Machined billet aluminum black anodized clevises
- For use with Tilton advanced 900-Series pedal assemblies
- Needle bearings ensure smooth operation
- 4-way bearing provides maximum movement range

Diameter	Length	Center-to-Center	Part Number
7/16"-20	3.95"	2.60"	**72-280**



Not designed for use with Anti-lock Brake Systems (ABS)

Super Starters®

The Original… and *still* the best. For over 30 years the Tilton Super Starter has provided dependable starting for the world's finest engines. Introduced in 1981, the Super Starter is the original high performance gear reduction mini starter. It has become the benchmark for starters used in high performance and racing applications. While other "high performance" starter companies have come and gone, the Super Starter has earned its reputation for providing dependable starting under the most extreme conditions.

Today, the Super Starter is used in many applications and almost every form of racing worldwide. They can be found virtually anywhere, from your neighbor's work truck, to a prototype race car competing in the 24 Hours of Le Mans. Often imitated, but never duplicated, the Super Starter is the ultimate in starter technology. Super Starters are available worldwide from premiere racing and high-performance distributors.

Which Super Starter is right for me?

Tilton Super Starters come in two styles, and choosing the right one depends on the engine you are starting. Tilton's new 40000-Series Severe Duty Super Starter has been engineered to be the best Super Starter to date. An evolution of the venerable 20000-Series Super Starters, the 40000-Series benefit from 30+ years of knowledge gained from designing/building/servicing starters for some of the most punishing racing applications. Each component of the starter has been closely scrutinized by Tilton's engineers and thoroughly tested on the dyno and at the race track. 40000-Series Super Starters are designed for individuals that desire the most robust and high-performing starter available. Suitable for use on engines above 400 C.I.D. and/or greater than 10.5:1 compression ratio.

XLT Super Starters are designed for individuals that desire the most compact and lightest-weight starter available. Suitable for use on engines up to 400 C.I.D. and/or 10.5:1 compression ratio with a standard diameter flywheel.

No matter which starter is right for your application, when you choose a Tilton Super Starter, you are choosing the best.

Starting the worlds finest engines, since 1981.

What makes a starter a Tilton Super Starter?

Quality

Every Tilton Super Starter is made with top quality, 100% new components, assembled by highly trained technicians and individually dyno tested to assure quality. Over 30 years of listening to feedback from motorsports customers has gone into the constant development of these starters, making them the choice for the most demanding applications.

Selection

Super Starters are available as an upgrade to many Original Equipment (OE) starters and for many specialty/custom applications. They are available in two different motor platforms, and many are available with standard or reverse rotation.

Up to 600 C.I.D. engine size
Up to 18.0 : 1 compression

40000-Series

Tilton 40000-Series Starters are designed for use on engines larger than 400 C.I.D and/or over 10.5:1 compression ratio with standard or small diameter flywheel.

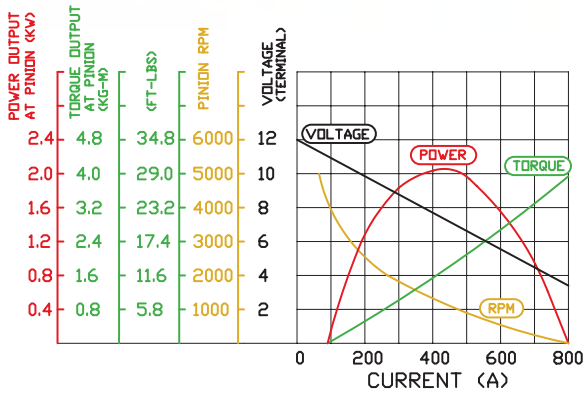
Up to 400 C.I.D. engine size
Up to 10.5 : 1 compression

XLT-Series

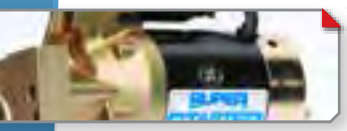
XLT-Series Starters are designed for use on engines less than 400 C.I.D and less than 10.5:1 compression ratio with standard or small diameter flywheel.

Heavy-Duty High Performance | 40000-Series

Motor Power:	**3.0 HP (2.2 kW)**
Weight:	**12.0 lbs**
Rec. Engine Size:	**Up to 600 C.I.D.**
Rec. Compression Ratio:	**Up to 18.0 : 1**



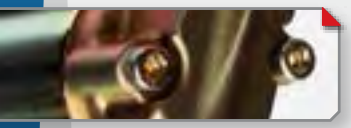
Application		Part Numbers
Chevy V8 / 90 degree V6	153 / 168-tooth ring gear	**54-40001**
	104-tooth ring gear	**54-40005**
Chevy LS/LSX	168-tooth ring gear	**54-40011**
	153-tooth ring gear	**54-40012**
Ford 289 / 302 / 351W / 390 / 427 / 428 engines, 1967-up		**54-40013**
Ford 351M / 400 / 429 / 460 engines		**54-40014**
Formula Ford	110-tooth ring gear, Hewland MK5/MK8 transaxles	**54-40030**
QM rear-mount starter bellhousing, 110-tooth ring gear		**54-41052**
Tilton rear-mount starter bellhousing, 105-tooth ring gear		**54-41052**
Tilton rear-mount starter bellhousing, 102T ring gear		**54-41062**
Tilton 52-Series 7.25" bellhousing, 110-tooth ring gear	4 o'clock solenoid position	**54-41547**
	6 o'clock solenoid position	**54-41047**
	11 o'clock solenoid position	**54-41647**
VW-type transaxles transaxles (Albins, Fortin, Mendeola, etc)		**54-41053**



Powerful 3.0 HP motor and gear reduction provides high torque to start large, high compression engines.

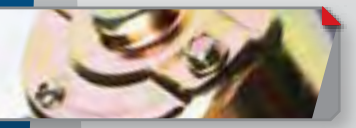
Precision machined components are held to critical tolerances, ensuring high performance and a perfect fit.

Internal vibration damping and electrical insulation provide longevity and maximum performance.

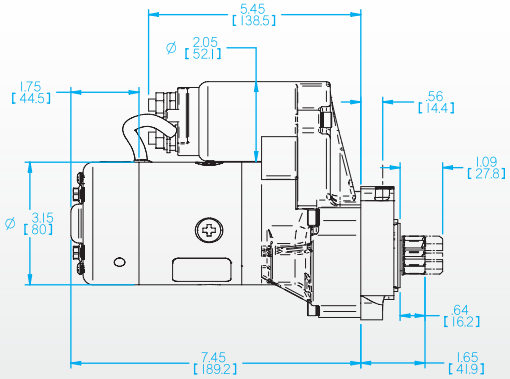


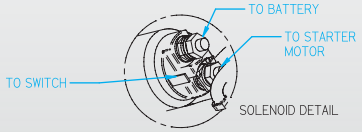
High-strength (grade 10.9) socket head fasteners ensure rigid assembly and easy access for hex keys.

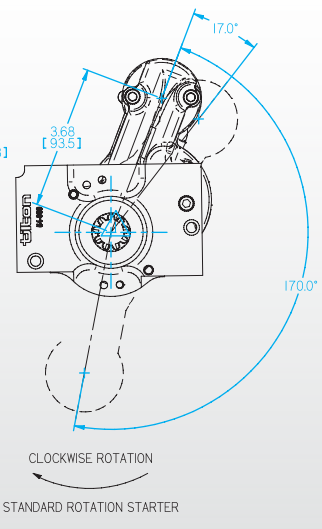
Serrated belleville lock washers are used to ensure fasteners stay in place through severe vibrations and heat cycles.



Thread locking compound is used on all fasteners and are secured to precise torque specifications.





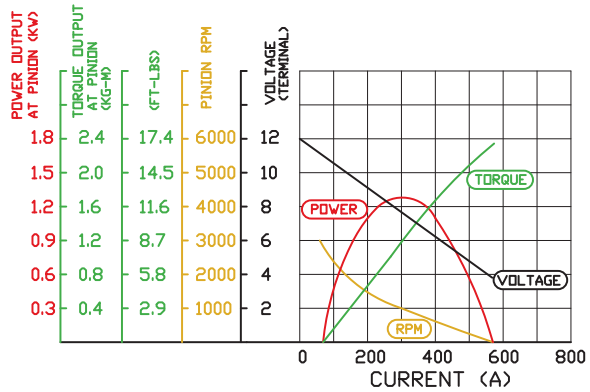


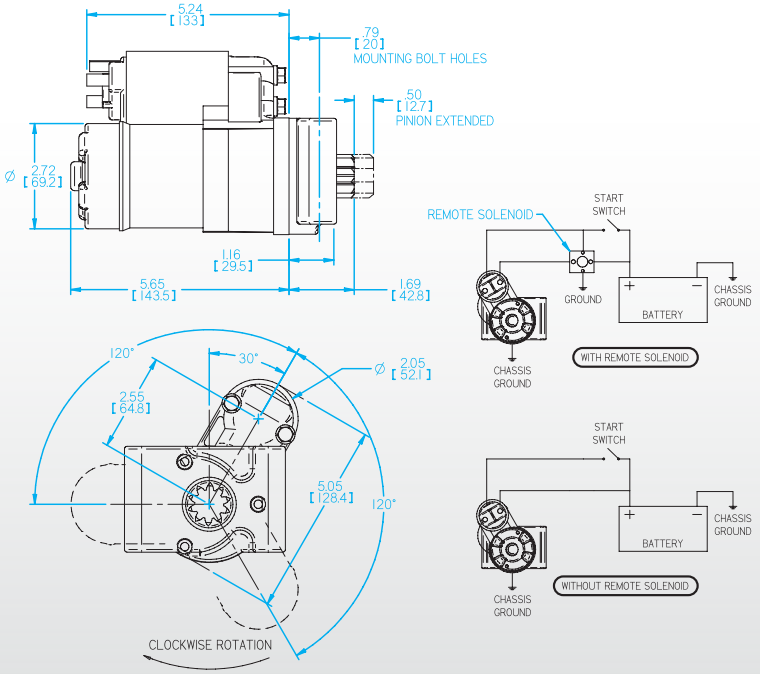
NOTES:
1. STARTER CAN BE INDEXED INTO THREE POSITIONS AS SHOWN
2. SET BACKLASH BETWEEN PINION AND RING GEAR TO .020" +/-.010"
3. CHECK FOR .100" +/-.040" PINION OFFSET FROM RING GEAR
4. 9 TOOTH, 12 PITCH PINION, .805" (20.45mm) PITCH DIAMETER
5. STARTER ASSY WEIGHS 11.2 LBS (5.1kg)
6. 3.0 HP, 2.2 kw MOTOR
7. CHEVY V8, SML & BIG BLK 153/168T FW
8. DIMENSIONS ARE NOMINAL

Lightweight High Performance | XLT-Series

Motor Power:	**1.6 HP (1.2 kW)**
Weight:	**7.0 lbs**
Rec. Engine Size:	**Up to 400 C.I.D.**
Rec. Compression Ratio:	**Up to 10.5 : 1**

Application		Part Numbers
Chevy V8 / 90˚ V6 engines, 153-tooth ring gear		**54-50001**
Formula Ford, 110-tooth ring gear, Hewland MK5/MK8 transaxles		**54-50030**
Tilton 52-Series 7.25" bellhousing, 110-tooth ring gear		**54-61048**
Universal drive assembly, no mounting nose	9-tooth, 10-pitch	**54-5110**
	10-tooth, 12-pitch	**54-5100**





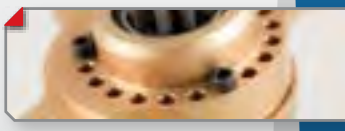
NOTES:
1. STARTER CAN BE INDEXED INTO THREE POSITIONS AS SHOWN
2. SET BACKLASH BETWEEN PINION AND RING GEAR TO .020" +/-.010"
3. CHECK FOR .100" +/-.040" PINION OFFSET FROM RING GEAR
4. 10 TOOTH, 12 PITCH PINION, .890" (22.58mm) PITCH DIAMETER
5. STARTER WEIGHT WITH NOSE: 7 LBS
6. POWER OUTPUT: 1.9 hp (1.4 kW)
7. CHEVY V8, SML & BIG BLK 153/168T FW
8. DIMENSIONS ARE NOMINAL

Lightweight yet powerful, the 1.6 HP motor provides fast torque to start high performance engines.

Precision machined components are held to critical tolerances, ensuring high performance and a perfect fit.

Internal vibration damping and electrical insulation provide longevity and maximum performance.

High-strength (grade 10.9) socket head fasteners ensure rigid assembly and easy access for hex keys.



Thread locking compound is used on all fasteners and are secured to precise torque specifications.

Starter Service Parts

GENUINE SERVICE PARTS

Solenoid

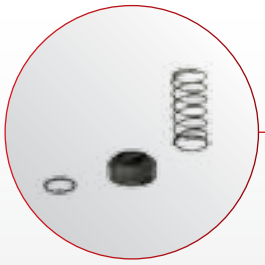
For all 40000-Series Super Starters	**54-422HD**
For all XLT Super Starters	**54-5500**

Drive Assembly - Includes pinion kit, sprag/clutch & bearings

For 54-40001, 54-40011, 54-40012, 54-40013 & 54-40014	**54-421**
For 54-41052 and 54-41053	**54-421R**
For 54-40005 and 54-40030	**54-020**
For 54-41062	**54SD-021R-13**
For 54-50001 and 54-5100	**54-5400**
For 54-50030 and 54-5110	**54-5410**

Pinion Kit - Includes pinion, return spring, cap & clip

For 54-40001, 54-40011, 54-40012, 54-40013 & 54-40014	**54-442**
For 54-41052 and 54-41053	**54-042R**
For 54-40005 and 54-40030	**54-043**
For 54-41062	**54SD-042R-13**



Spring Kit - Includes return spring, cap & clip

For all 40000-Series Super Starters	**54-446**

Shim Kits - Adjusts pinion-to-ring gear clearance

.062" thick, includes round and housing-shaped shims	**54-952**
Same as 54-952 with strip shims and Chevy mounting bolts	**54-950**