CARDONE

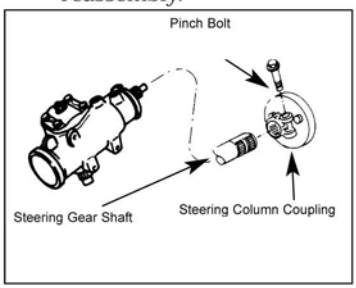
POWER STEERING GEAR
Step-By-Step Instructions

REMOVING THE ORIGINAL STEERING GEAR

NOTE: You are urged to refer to a suitable service manual before attempting to make repairs. If you do not have such a manual, or lack the experience, you should seek the services of a qualified technician.

NOTE: For Chrysler models equipped with energy absorbing steering columns, the manufacturer recommends removing the steering column before replacing the steering gear. This will avoid possible damage to the column. Refer to the manufacturer's specific instructions when replacing the steering gear in any vehicle with an energy absorbing steering column.

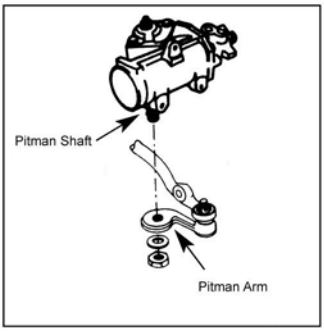
1. Disconnect the ground cable from the battery.
2. Turn ignition key on and straighten the wheels.
3. Raise the vehicle.
4. Remove stone shield or skid plate, if so equipped.
5. Locate and tag the steering gear pressure and return lines before disconnecting. This prevents confusion when installing the replacement gear.
6. Disconnect the pressure and return lines from the steering gear. Plug the lines and the ports in the gear to prevent dirt from entering. Place a receptacle beneath lines to collect draining fluid.
7. Remove the steering coupling shield, if so equipped.
8. Remove the fastening hardware securing the steering shaft coupling to the steering gear. Note the sizes and position of different fasteners to ensure correct reassembly.



NOTE: In some applications, the steering gear shaft is grooved where the pinch bolt holds it to the coupling. The steering shaft cannot be disconnected from the coupling unless the pinch bolt is removed.

9. Remove the Pitman arm retaining nut and washer.

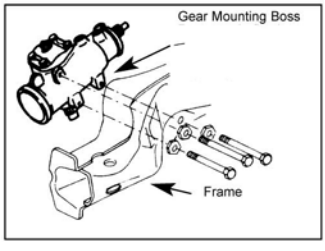
NOTE: Mark the position of the Pitman arm on the steering gear Pitman shaft. Use this position for reference when installing the replacement steering gear.



10. Disconnect the Pitman arm from the steering gear Pitman shaft using a suitable puller. **DO NOT** use a wedge or fork as this will damage the steering gear and **VOID** its core credit value.
11. Remove sheet metal baffle covering frame-to-gear attaching bolts, if so equipped.
12. If vehicle has a standard transmission, remove clutch release lever retracting spring to provide clearance for steering gear removal, if necessary.
13. While supporting the steering gear, loosen the gear-to-frame mounting bolts.

CAUTION: Be sure the steering gear is supported before loosening the mounting bolts that secure it to the frame. The component is heavy and can cause serious injury if handled carelessly!

14. Remove the mounting bolts, noting the number and position of any shims between the steering gear and frame.



15. Carefully separate the steering gear from the steering shaft coupling and remove it from the vehicle.

NOTE: DO NOT use a hammer or other tool to loosen coupling! You can cause permanent damage and loss of function to the steering column and joint.

16. Cores holding fluid, especially hydraulic units, **MUST** be drained before they are returned for core credit. After draining, put the old steering gear in carton to assure proper core credit upon return.

INSTALLING THE REPLACEMENT STEERING GEAR

1. Position the steering gear shaft in the steering shaft coupling. Loosely install the mounting hardware.
2. Position the gear on the frame and install the mounting bolts. Tighten coupling hardware and gear mounting bolts to the manufacturerís specification.
3. Install steering coupling shield and/or mounting bolt baffle, if so equipped.
4. Connect Pitman arm to gear's Pitman shaft. Install washer and retaining nut and tighten to manufacturerís specification.
5. Replace existing steering system hoses with new ones.

NOTE: When replacing any part of the power steering system, **ALWAYS REPLACE ALL HOSES AND FLUSH THE SYSTEM!** Old hoses contain residues that can harm the new steering gear and possibly cause malfunctions. Also, worn hoses cannot always be detected by inspection since they rot from the inside out. **IT IS VERY IMPORTANT THAT ALL HOSES BE REPLACED BEFORE STARTING THE ENGINE!**

6. Connect pressure and return lines to the steering gear and tighten fittings to manufacturerís specification.
7. Install the skid plate or stone shield, if so equipped.
8. Lower the vehicle.
9. Disconnect fluid return hose from the power steering pump and cap the return fitting. Place the return hose in a waste container to catch the old fluid.
10. Reconnect the ground cable to the battery.
11. Disable the ignition. Fill the pump reservoir. Crank the engine in short bursts to avoid overheating the starter. Continue to replenish fluid until the fluid from the return hose is clear. **DO NOT** allow the pump to run out of fluid.
12. Have an assistant turn the steering wheel from full left to full right stop several times during this operation. This will help purge the system of dirt and metal particles.
13. Install a new fluid filter in the return hose and connect the hose to the steering pump. Fill the reservoir to the correct level.

NOTE: A fluid filter **MUST** be installed in the pump end of the return hose, before the vehicle is placed in service. Failure to install the filter voids the Power Steering Gear warranty.

14. Install the drive belt on the pulley and adjust to the proper tension.
15. Reconnect the ground cable to the battery.
16. Start the engine and rotate the steering wheel from stop to stop several times to bleed the system of air. Check for leaks and proper system operation before road testing the vehicle.

NOTE: Some Ford power steering systems are difficult to rid of air. This can result in a growling noise from the steering pump. In some cases, the steering system may require pressure bleeding. Refer to the manufacturer's service manual for complete bleeding instructions.

Possible Problem	Steering gear rattle or chuckle	Excessive Steering Play/Looseness	Excessive wheel kickback	Poor steering return	Hard Steering/Lack of assist	Vehicle leads to one side	Steering gear leaks
Symptom							
Steering gear loose on frame, loose Pitman arm	X						
Loose Pitman arm		X					
Steering gear loose on frame, Flexible coupling loose on gear shaft			X				
Column coupling "bottomed," Pitman shaft adjustment too tight, Steering-gear-to-column misalignment.				X			
Column coupling "bottomed," Pitman shaft adjustment too tight, Steering gear-to-column misalignment, Internal steering gear leakage					X		
Column coupling "bottomed," Pitman shaft adjustment too tight, Steering gear-to-column misalignment, Internal steering gear leakage						X	
Fluid hose fittings loose or improperly connected							X