WELLER

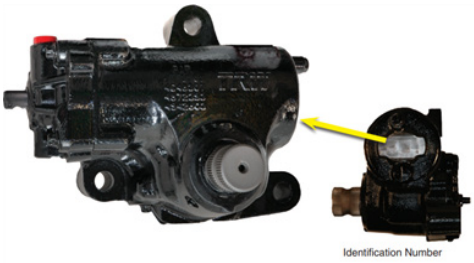
100% Associate Owned

STEERING IDENTIFICATION

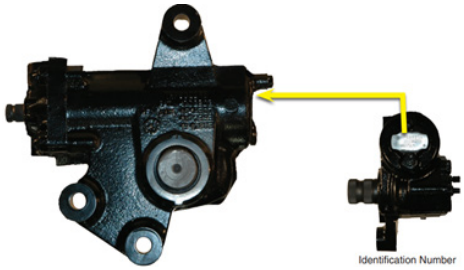
- All HF and HFB series will be manual poppets
- All TAS and THP series will be automatic poppets
- All 92 series (292, 392, 492, and 592) will be manual poppets
- M80, M90, M100, and M110 will depend on if they end in a 1 or 3
- MD83 and HD94 will be automatic poppets
- XD120 will be manual poppets
- Sheppard poppets- Any part number that ends in a 1 will be manual poppets (i.e. PET1/PLJ1 or PEN1/PLE1) and any part number that ends in a 3 will be automatic poppets (i.e. PHE3/PMX3 or PMT3)
- All Sheppards equipped with automatic poppets will have AUTO in raised cast on the housing

AUTOMATIC POPPETS

TAS SERIES

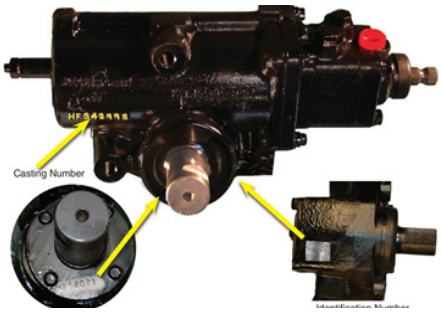


THP SERIES

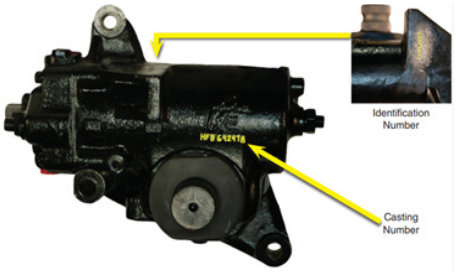


MANUAL POPPETS

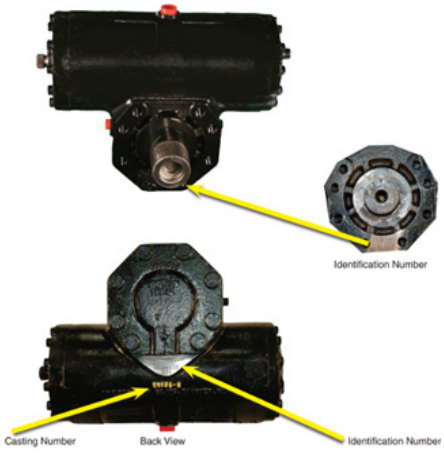
HF SERIES



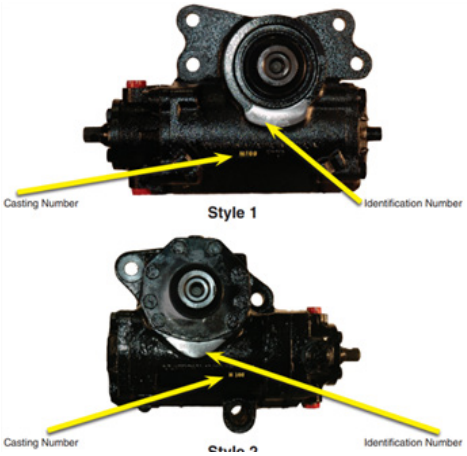
HFB SERIES



92 SERIES



M SERIES / HD SERIES



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MANUAL POPPET ADJUSTMENT PROCEDURE

For TRW (all HF and HFB models), Sheppard (292, 392, 492, and 592 models) and M-SERIES models (M80, M90, M100, and M110) with a part number ending in a 1 (examples: M100 PCL1 and M110 PHM1).

WARNING! DO NOT TURN OR ROTATE THE STEERING GEAR UNTIL STEPS 1 THROUGH 9 ARE COMPLETED TO ENSURE PROPER ADJUSTMENT!

Adjusting the relief valve plungers is critical to the operation of your complete steering system. The relief plunger adjustment is provided to automatically reduce the steering pressure when the road wheels have reached their limits of turn. This keeps the supply pump from operating at maximum relief pressure when the road wheels are at their steering limits. Systems temperatures are therefore reduced, and high stress loads on the mechanical components of the steering system are relieved.

Adjust the relief valve plunger as follows:

1. Ensure that the steering gear is not rotated from the center position prior to installation.
2. Make sure that the axle stops are present and set for the proper turning radius as per manufacturer's specifications.
3. Install steering gear to frame.
4. Attach and torque input yoke. Connect hydraulic hoses.
5. Attach pitman arm and torque nut and bolt assembly.
6. Make sure that the timing mark on the sector shaft is:
    A. 90 degrees from center line of worm shaft.
    B. Properly aligned with the mark on the pitman arm.
7. Make sure the pitman arm positioning allows for the center point of the sector and the center point of the drag link to be plumb with each other.
8. With the wheels square to the frame, check the drag link for proper adjustment and install.
9. Once system is flushed (see p. 6) then fill reservoir, start engine, and allow to idle only. Do not allow the reservoir to run low on fluid.
10. With full weight of the vehicle on all wheels, turn the steering wheel in one direction until a high pressure hiss is heard or the axle stops contact.
11. Turn the relief valve plunger located on both ends of gear in or out until the high-pressure hiss is heard when there is 1/8 to 3/16 inch clearance between the axle stops.
12. Repeat this procedure for the opposite direction of steer, and adjust the relief valve plunger on the opposite end of the steering gear.

Turning the plungers in too far will trip the relief before a full turn is realized. Turning the plungers out too far will not allow the systems to relieve, and will therefore cause damage. Do not turn the slotted plungers out beyond flush with the plunger boss or a leak will occur. Axle stops should only be adjusted in accordance with the vehicle manufacturer's specifications.

After the relief valve plunger adjustment, always check to ensure that the road wheels and tires have adequate clearance between suspension, brake and frame components.

AUTOMATIC POPPET ADJUSTMENT PROCEDURE

For TRW (all TAS and THP models), ZF (all models), Sheppard (all HD, MD, SD, and XD models), and Sheppard M-SERIES models (M80, M90, M100, and M110) with a part number ending in 3 (examples: M100 PHE3 and M110 PHC3).

WARNING! DO NOT TURN OR ROTATE THE STEERING GEAR UNTIL STEPS 1 THROUGH 9 ARE COMPLETED TO ENSURE PROPER ADJUSTMENT!

1. Ensure that the steering gear is not rotated from the center position prior to installation.
2. Make sure that the axle stops are present and set for the proper turning radius as per manufacturer's specifications.
3. Install steering gear to frame.
4. Attach and torque input yoke. Connect hydraulic hoses.
5. Attach pitman arm and torque nut and bolt assembly.
6. Make sure that the timing mark on the sector shaft is:
    A. 90 degrees from center line of worm shaft.
    B. Properly aligned with the mark on the pitman arm.
7. Make sure the pitman arm positioning allows for the center point of the sector and the center point of the drag link to be plumb with each other.
8. With the wheels square to the frame, check the drag link for proper adjustment and install.
9. Once system is flushed (see p. 6) then fill reservoir, start engine, and allow to idle only. Do not allow the reservoir to run low on fluid.
10. With the front axle lifted off the ground and the engine at idle, turn the steering wheel all the way in one direction until "steering stops" bottom out. Repeat procedure in the opposite direction. Return wheels to straight ahead. Lower front axle back to the ground.
11. Poppets are now set and any remaining air should be bled.

Learn More about Our Steering Gears

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