

# **MILODON**

2250 Agate Court  
Simi Valley, Ca 93065  
(805) 577-5950

## **Chrysler Oiling Systems** **For Hemi and Wedge Engines**

#21000 through #21196

Although the Milodon Chrysler Oil System has been around for 35 years, it is still the leader of the pack in ultimate performance and ability to provide adequate oiling to any serious Chrysler engine, Pro Street through Top Fuel. Today the parts are mostly billet and are run on CNC mills to assure the highest quality available but still the same renowned engineering.

### Installation Procedure

All parts new, machined or existing being reassembled must be thoroughly cleaned.

Pump Assembly: Install a stock pressure regulator or a Milodon adjustable regulator into the regulator passageway checking for free movement of the piston. Check for free rotation of the oil pump gears, if necessary hand debur lightly to achieve bind free spin. Check gear depth in the housing. The gears should be a minimum of .015 to a maximum of .004., less may score the cover and more will make priming difficult. Check for burrs on the pump and cover face, dress them if necessary. It is recommended that a coat of white grease at the very least a coat of thick oil be applied to the gear, cover and regulator piston surfaces. Place the required O-rings in place. If using the #21815 double entry pump with the Ford style gears it is imperative that only the supplied large O-ring supplied be used. It measures .065 instead of the factory .085 size. If a stock O-ring is used with the #21815 housing it will break the O-ring groove lip and try to seize the gears. This O-ring is also available in the oil system rebuild kit #21590. The pump cover may now be attached to the housing with the 2 5/16" bolts.

1. We have found on some blocks (both steel & aluminum) misalignment between the pump mounting holes in the block and the holes through the pump. When bolts are tightened the pump will distort causing interference between the housing and gears. If this occurs, pump and cover bolt holes may be drilled over size within reason to compensate for misalignment.
2. On some blocks (both steel & aluminum) pump pad is machined at wrong angle causing pump to not sit square against pad and when bolted up will distort pump housing and perhaps crack the pump neck. If this occurs, block pump pad should be re-machined on correct angle (90 degree to pump neck hole).
4. Before priming the pump initially, a liberal coating of white grease, or the like, should be applied to the inside of the pump housing and all gear surfaces. This will prevent dry start up scoring and will allow immediate priming of the oil system. For initial system priming Milodon's 23015 shaft should be used. To assist the pump to prime on initial start-up, as the rear inlet line enters the oil pump route it slightly above the oil pump before it turns down to the pick-up.

5. This pump is required to pull usually cold oil through two 7/8" I.D. lines as opposed to a stock system's 1/2" I.D. passageway, so it may react a little slower. Because it has a tougher job, any gear scoring due to foreign debris will start to inhibit the pumps priming ability. The oil filter will catch this debris but only after going through the gears! Replacement gear sets for this pump are Milodon part #21817. Pump O-ring and gasket rebuild kit is Milodon part #21590. Externally adjustable pressure regulator is Milodon part #21550. NOTE: 21815 does NOT use the stock Chrys o-ring around the gear.

6. The depth of the gear set in the pump housing is very important in the pump's ability to prime. This pump has been factory measured to be between .0015" and .004", any less will score the cover, any more will result in poor priming. If you replace the gears this will need to be checked at that time.

Pump Shaft - Length of distributor drive shaft should always be checked to be sure that shaft is not bottoming out in gear causing this gear to dig into and ruin the pump cover. A minimum of .060" shaft end clearance is required. Shaft should be shortened if necessary. The Milodon #21513 and #21523 pump shafts are required by the 21815 pump equipped engines. When a steel bodied high volume pump is used, the 21505 and 21525 pump shaft and gears are required. When a steel bodied high volume pump is used with a dual line spacer the long length pump shaft #21500 and 21520 are required.

Pickup Assembly – The pickup whether swivel or static will attach the fittings in the same way. The fitting is a “bulkhead” style that has a groove cut into the long thread section that the O-ring will sit in. Use a little oil on the fitting threads so avoid galling. With the jam nut and the washer threaded onto the fitting, slide the fitting through the holes in the pan. The O-ring will then be installed on the fitting inside the oil pan. Align the O-ring on the unthreaded groove. Use the jam nut to adjust the fitting position in or out to correctly align the O-ring in its groove. Slide the pickup up to the fitting and screw the fitting into the pickup. The final tightening will be by the jam nut once the desired fitting angle has been determined.

When using the swivel pickup, make sure that throughout the pickup's sweep forward and rearward is kept at an even 1/4" to 3/8" all the way through. That is not 1/2 at one end and 1/8" at the other.