



OIL PAN P/N 302-1



Instruction Sheet 199R10566

CONGRATULATIONS on your purchase of the Holley® **LS Retro-fit Oil Pan!** We feel that you have purchased the finest performance oil pan manufactured today. Should you need information or parts assistance, please contact our Technical Service Department at 1-866-GOHOLLEY or 1-270-781-9741, Monday through Friday, 8 a.m. to 6 p.m. CST. Please have the part number of the product you purchased on hand when you call.

WARNING! These instructions must be read and fully understood before beginning installation. Failure to follow these instructions may result in poor performance, vehicle damage, personal injury, or death. If these instructions are not fully understood, installation should not be attempted.

INTRODUCTION:

Holley® Performance Products has written this instruction sheet for the installation of the **LS Retro-fit Oil Pan**. This instruction sheet contains all the information needed to install the oil pan. Please read all the **WARNINGS** and **NOTES**, as they contain valuable information that can save you time and money. Holley® Performance Products cannot and will not be responsible for any alleged or actual engine or other damage, or other conditions resulting from misapplication of the oil pan described herein. However, it is our intent to provide the best possible products for our customer; products that perform properly and satisfy your expectations.

APPLICATION: The Holley® LS Retro-fit oil pan is designed for LS engine retrofit installation in a wide range of popular GM muscle/classic car and truck chassis. (Not intended to be used with engines that originally utilize a dry sump system). The pan provides OEM fitment and oil filter mounting provisions.

The Holley® LS Swap oil pan is designed to work with an LS3 dipstick and tube (if desired). Below are the part numbers:

- LS Dipstick – GM P/N 12634547
- LS tube – GM P/N 12625031

NOTE: There are LS engine applications that have a plug installed in the dipstick hole location to be used with this oil pan. This plug will need to be removed before the oil pan is installed on the engine to allow the installation of the proper dipstick tube.

PAN CAPACITIES: Sump oil Capacity – 5.5 Qts
Total oil capacity with stock filter – 6 Qts

PARTS NEEDED:

- Oil Pan Gasket (GM 12612350 or equivalent)
- Hi Quality RTV sealer
- Oil
- Oil Filter (AC Delco PF48 or equivalent)

REMOVAL:

1. Drain the engine oil. Remove oil filter.
2. Remove the starter motor.
3. Disconnect the oil level sensor electrical connector (if equipped).

4. Remove the oil level sensor from the oil pan and set aside. The sensor will not be utilized in the Holley® pan.
5. Remove the RH transmission cover and bolt.
6. Remove the LH transmission cover and bolt.
7. Remove the bottom two transmission bellhousing bolts.
8. Remove the oil pan bolts.
9. Rotate the oil pan until it can be removed from around the oil pump pickup screen. (Removal of the oil pan may not be possible with the engine in the vehicle).

WARNING! Use extreme care when drilling the oil pan rivets to not gouge, score or damage the oil pan gasket.

NOTE: Holley® does not recommend or condone the use of the old pan gasket. A new gasket is highly recommended. If you choose to re-use the old gasket, proceed to step 11, otherwise proceed to step 13.

10. Carefully drill out the oil pan gasket rivets (2) if necessary (See Figure 1).



Figure 1

11. Remove oil pan gasket. Save this gasket as it will be re-used.
12. Remove the oil pump pickup screen retaining bolt and nut.
13. Remove the oil pump pickup screen and o-ring, discard o-ring and set the pickup aside as it will not be re-used.
14. While the oil pan is removed, check the dipstick hole on the right side of the engine below cylinder #6 to assure that there is no plug installed and that the dipstick tube will fit in the hole.

IMPORTANT: All gasket surfaces should be free of oil or other foreign material during assembly. Inspect the engine block oil gallery passages to make sure they are free from any debris or restrictions.

IMPORTANT: The oil pan on LS engines is a structural member. The alignment of the pan is critical to provide the proper mounting points for the transmission bellhousing. The rear of the oil pan must never protrude from the rear of the block. The rear of the block and oil pan are to be flush (See Figure 2).

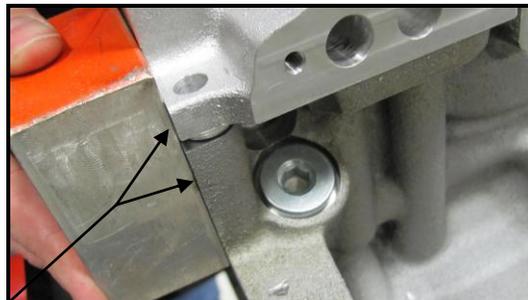


Figure 2

IMPORTANT: It is advisable to wash all of the new parts well before installing to remove any dirt or debris from the packing and shipping process.

IMPORTANT: It is advisable to mock up the engine and oil pan in the intended vehicle to ensure there is no contact of the pan to the frame or crossmembers.

INSTALLATION:

1. Remove the new Holley® oil pan, parts kit, pickup screen and baffle from the box.
2. Install the supplied o-ring onto the oil pump pickup screen assembly and lubricate with clean engine oil (See Figure 3).



Figure 3

WARNING: Due to the design of the Holley® oil pump pickup screen, slight modifications may have to be made to the oil deflector before the pickup screen will sit flush (See Figures 4 & 5). Be sure to inspect this area before bolting the pickup screen into place as modifications may have to be made. GM offers an oil deflector that has the necessary clearance for the mounting bracket of the pickup screen. The GM P/N is 12611129, if modifications to the oil deflector are not desired.

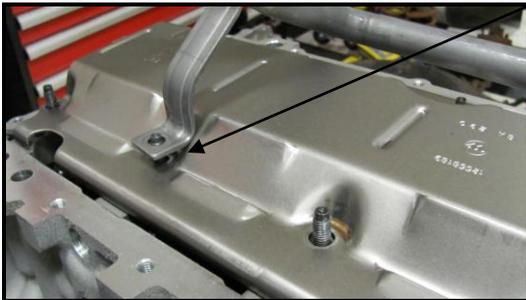


Figure 4

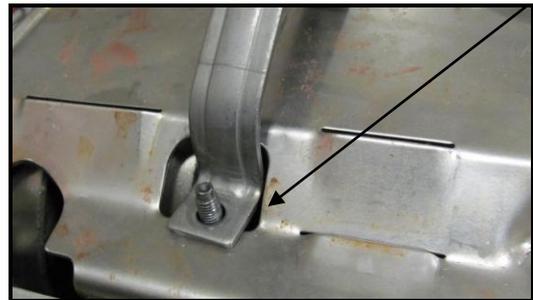


Figure 5

3. Install the new Holley® oil pump pickup screen assembly ensuring that oil pump pickup screen tube is pushed completely into the oil pump before tightening the bolt (See Figure 6). Do not allow the bolt to pull the tube into the pump (Ensure the o-ring has not been pinched during installation).



Figure 6

4. Rotate the crankshaft by hand to ensure there is adequate clearance between the pickup tube brace, oil deflector and the crankshaft counterweights.
5. Install the oil pump screen nut and bolt.
6. Tighten the oil pump pickup screen bolt to 106 inch lbs and the nut to 18 Ft. lbs.
7. Pre-assemble the oil pan.
8. Install the baffle to the oil pan using the (4) supplied ¼-20 x .5 long cap screws. It is recommended that a drop of blue Loctite be applied to the threads of the bolts. Hand tighten.

9. Torque the (4) baffle bolts to 8-10 ft. lbs.
10. Install the supplied oil passage cover, gasket and M6 x 1.0 x 30mm long bolts to the oil pan just above the oil filter. Tighten the oil passage cover bolts to 106 inch lbs.
11. Install the new oil pan gasket to the oil pan and install the oil pan bolts to the pan through the gasket. The gasket is designed to hold the bolts in place.
12. Apply a 5mm bead of RTV sealant 20mm long to the engine block (See Figure 7) directly onto the tabs of the front cover gasket that protrude into the oil pan surface.



Figure 7

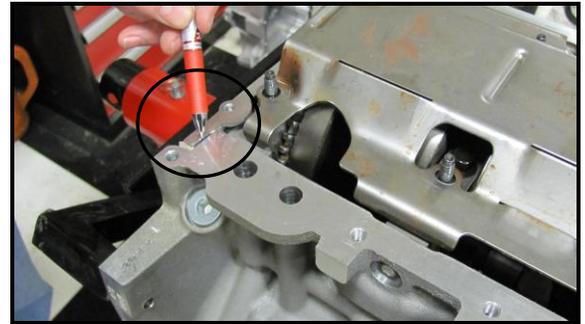


Figure 8

13. Apply a 5mm bead of RTV sealant 20mm long to the engine block (See Figure 8) directly onto the tabs of the rear cover gasket that protrude into the oil pan surface.
14. Install the oil pan assembly to the engine block.
15. Snug all the oil pan bolts by hand (do not overtighten).
16. Install the two lower transmission bellhousing bolts until snug (do not overtighten).
17. Tighten the oil pan to block and oil pan to front cover bolts to 18 ft. lbs. (work from the center out).
18. Tighten the oil pan to rear cover bolts to 106 inch lbs.
19. Tighten the two transmission bellhousing bolts to 37 ft. lbs for a manual transmission and 70 ft. lbs for an automatic transmission.
20. Install the LH side transmission cover and bolt. Torque to 106 inch lbs. Install the RH side transmission cover and bolt. Torque to 106 inch lbs.
21. Install the supplied oil pan drain plug and tighten to 18 ft. lbs.
22. Install the supplied oil filter adapter and tighten to 40 ft. lbs.
23. Before installing the new oil filter, apply a thin film of oil to the filter gasket. Install the new engine oil filter and follow the manufacturer's recommendation for tightening procedures.
24. Fill the crankcase with the proper quantity and grade of oil.
25. Be careful not to overfill with oil.
26. Start the vehicle and check for leaks and adequate oil pressure. Use the original dipstick to verify the oil level. This should read full after 6 quarts of oil with a new filter.

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