Dailey Engineering
DRY SUMP OIL SYSTEMS

LS Dry Sump Installation Guide

**This guide assumes the dry sump will be installed on a crate engine. If installing on a built engine ignore the disassembly portion.

**This is a generic set of guidelines. If this does not seem straight forward please consult with a reputable engine builder who has experience in motor preparation.

1- Remove the stock damper and discard it

2- Remove the stock oil pan and discard it

3- Reuse the stock oil pan gasket
(**gasket will need to be trimmed for the oil feed fitting to clear**)

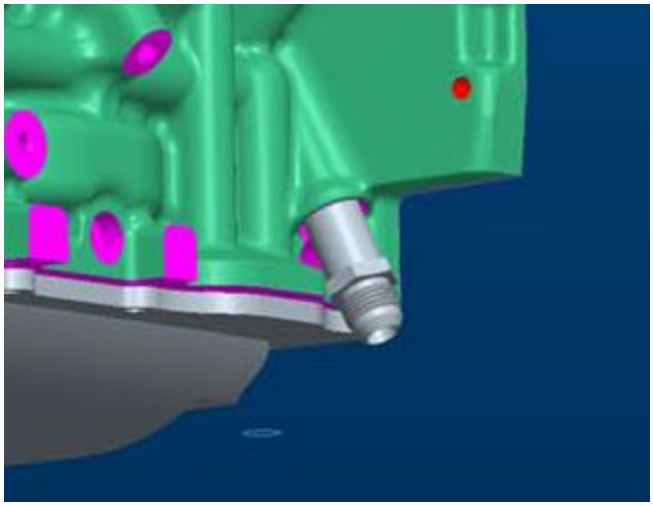
4- Remove the stock windage tray and discard it. The long studs for the windage tray will fit inside the oil pan and do not need to be removed

5- Remove the front cover

6- Remove the stock oil pump and discard it

NOTE No oil holes in the block need to be plugged. The plastic oil galley plug in the rear of the main oil galley will seal the front holes in the block from oil fed to the motor with the fitting supplied. This applies only to production based blocks. Some aftermarket blocks may do this differently.
https://www.google.com/search?q=ls+oil+galley+plug&biw=1366&bih=643&source=lnms&tbm=isch&sa=X&sqi=2&ved=0ahUKEwjuwc7f8sLKAhVKzGMKHRKbCR4Q_AUIBygC

7- Install the supplied fitting (26-02-0600) with the crush washer into the lower left rear port just above the #5 main cap side bolt (See the attached image). When the original plug is removed you can look inside the port and see the plastic oil galley plug. If this is not in place you will have to seal the ports at the front of the block



8- Plug dipstick port
When the dipstick is removed the hole in the block will need to be sealed. This is not supplied.
https://www.google.com/search?q=ls+dipstick+plug&biw=1366&bih=643&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjX-JXc_8LKAhUIKWMKHSnEAKAQ_AUIBygC

9- Install the front cover

10- Install the damper. Refer to the ATI damper instructions for installation.
http://www.atiracing.com/instructions/LS1-LS7-Damper.pdf

11- Install the oil pan with the stock gasket (be sure to trim gasket to clear oil feed fitting). Hardware to install the oil pan is left up to the engine builder and not supplied.

12- Install the oil pump with the supplied hardware. Use Loctite to secure these bolts and torque to 10 ft-lbs. Make sure the orings are new and replaced whenever the oil pump is removed. We recommend using an oring lubricant to hold the orings in place and lubricate them
https://www.google.com/search?q=dow+%2355&espv=2&biw=1366&bih=643&source=lnms&tbm=isch&sa=X&ved=0ahUKEwiLld2D9sLKAhUH8GMKHd1TCS0Q_AUICSgE

13- Install the oil pump pulley following the instructions supplied with the pulley.
http://www.daileyengineering.com/faq

14- Install the belt. The belt runs in a loose condition so do not panic the first time you install our dry sump. You should be able to roll the belt off the pulley easily but not skip a tooth. You should be able to twist the belt 90 degrees. Never pinch the belt together as this can generate a tremendous amount of bending load on the shaft.

NOTE

Vehicle installation is left up to the user to define. Oil tank, filter and plumbing.

We recommend a -16 oil feed line from the oil tank outlet to the oil pump pressure inlet. No restrictions like a filter should be installed in this line.

We recommend that the -12 oil pressure outlet from the oil pump feeds an oil cooler (if used) with -12 line size. The oil cooler should also be equivalent to a -12 line size.

We recommend the outlet of the oil cooler to feed a remote oil filter with a -12 line size.

We recommend the engine oil filter to be somewhere close to the oil inlet of the block. Connect the oil filter outlet to the engine oil inlet fitting with a -10 line. Line should be as short as possible.

We recommend the use of a 75 micron scavenge filter on the -16 scavenge return line back to the oil tank
http://www.petersonfluidsys.com/filter_400.html
part number 09-0439

We recommend the vent line on the oil tank to be at least a -16 line size.

Oil tank would recommend Peterson 2 or 2.5 gallon tank if you can fit it.
http://www.petersonfluidsys.com/tank_stand.html
08-0006
08-0008
Dual inlets and cap one off. down the road you might end up with a dual return pump. Better to have it than not.

http://www.petersonfluidsys.com/tank_acc.html
tank mount 08-0100
catch tank 08-0400

http://www.petersonfluidsys.com/engine_breath.html
vacuum regulator 08-0455
add to valve cover and set vacuum about 12” hg

http://www.petersonfluidsys.com/filter_mount.html
remote oil filter, take your pick

plumbing recommend brown and miller hose and hose ends
http://www.bmrs.net/