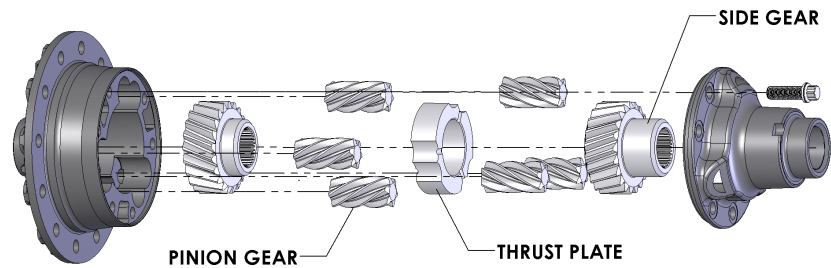


Owner's manual for Strange S-Trac differentials

APPLICATIONS:

- Strange S60/Dana 60 (Part# D3523)
- Ford 9 inch applications using a 3-1/4" bore case (Part# N1980)

Note: All applications are intended for 35 spline axles with a 30 deg. pressure angle.



Note: D3523 unit shown

FEATURES:

Case hardened AISI 8620 steel is used for the case halves as well as internal gears in the S60/Dana 60 applications. It provides superior wear resistance as well as exceptional resistance to high input torque and shock loading. For increased toughness, case hardened AISI 9310 steel is used for all internal gears in Ford 9 inch applications. S60/Dana 60 differentials utilize six massive pinion gears to control differential action (shown above), while 9 inch differentials use a total of ten pinion gears for the ultimate torque carrying capacity. An added benefit is the addition of static preload between the two side gears. This feature aims to further control unwanted tire slip while maintaining smooth operation around corners. The differentials do not contain clutch packs which can wear out over time and reduce the effectiveness of the unit.

OPERATION:

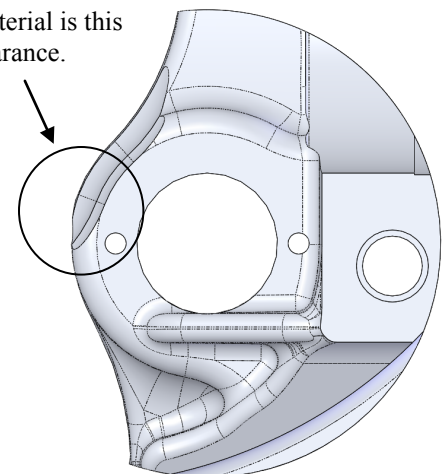
The Strange S-Trac differentials are an excellent choice for street/strip cars, road racing, autocross, drifting, and off-road vehicles. Under normal operation they function the same as a conventional open type differential; power flow is smooth and seamless when traveling in a straight line or around sharp corners. The S-Trac differential will not influence vehicle steering and there is no perceived backlash as is the case with certain types of locking differentials.

Differential action is controlled by helical side gears and pinion gears. If one tire begins to slip relative to the other tire, a separating force is created between the pinion gears and side gears. This force generates friction inside the unit which slows the spinning tire and sends power to the tire with the most traction. **Warning:** In extreme situations damage to the unit can occur when one tire spins excessively fast compared to the other tire. An example of this would be when leaving the water box during a burnout. Typically one tire will dry up faster than the other creating an unequal traction situation which can cause an excessive difference in tire speeds. Care should be taken to avoid this situation.

CASE FITMENT:

Differentials used in some Ford 9" cases may require slight clearancing in the tail bearing area. See figure to the right.

Remove material in this area for clearance.



LUBRICATION:

S-Trac differentials are compatible with all standard mineral based and synthetic gear lubricants. Friction modifiers or additives should not be used as they can reduce the effectiveness of the units.

REPAIR OR SERVICE:

The differentials do not require any service or adjustments and should not be taken apart. If the unit is thought to be in need of repair it should be returned to Strange Engineering.

WARRANTY:

All Strange S-Trac differentials carry a limited lifetime replacement warranty against breakage to the original owner with proof of purchase. The warranty does not cover abuse in severe unequal traction situations. Refer to the warning in the operation section above for a more in depth description.