

DURACLUTCH INSTALLATION

15-558 K-DCR RANGER 800-B R-SERIES

SVI, LLC 18AUG2023

KIT PART #: 15-558

MODEL: DCR-RANGER 800-B

DESCRIPTION: ALL RANGER 800 6x6 MODELS

KIT CONTENTS:

1. 10-275 ASM-DC PRIMARY 33 R-SERIES
2. 10-209 ASM-DC SECONDARY
3. 35-047 BELT
4. 10-101 ASM-TORQUE STOP GEARBOX MOUNT
5. 99-023 LOCTITE 243 0.5ML CAPSULE 1330255
6. 90-051 WASHER-SHIM 0.906 X 1.38 X 0.030 7556454 QTY 4
7. 30-091 TOOL-BELT INSTALL
8. 97-053 DECALS - CLUTCH HOUSING AND DASH 35-047
9. 98-066 DURACLUTCH WARRANTY
10. 98-089 INSTALLATION INSTRUCTIONS DC 15-558 (THESE INSTRUCTIONS)

To watch a R-Series installation video go to www.duraclutch.com or checkout our YouTube channel <https://www.youtube.com/user/SpecialtyVehiclesInt>

NOTE REGARDING THE TORQUE STOP AND ENGINE MOUNTS:

A torque stop is supplied with the DURACLUTCH kit.

How the torque stop works: The RANGER 800 6x6 engine and transmission are mounted independent of each other. The engine is rubber mounted for vibration isolation. When torque is transmitted through the belt the rubber mounts flex and the engine is pulled toward the secondary clutch on the transmission tending to loosen the belt. The purpose of the torque stop is to limit the engine movement when accelerating. The torque stop maintains belt tension and keeps the belt from slipping.

Engine mounts: Now is a good time to check motor mounts (4 places) to ensure none are broken (separated) or vehicle performance will be adversely affected. The best way to do this is to use a pry bar to move the engine away from the mount. If the mount is broken it will separate when you move the engine away from the mount. Replace any broken motor mounts.

TORQUE STOP INSTALLATION:

1. Remove clutch housing back and install the torque stop bracket with the gearbox mounting bolts as shown. Torque nuts to 32 ft-lbs.

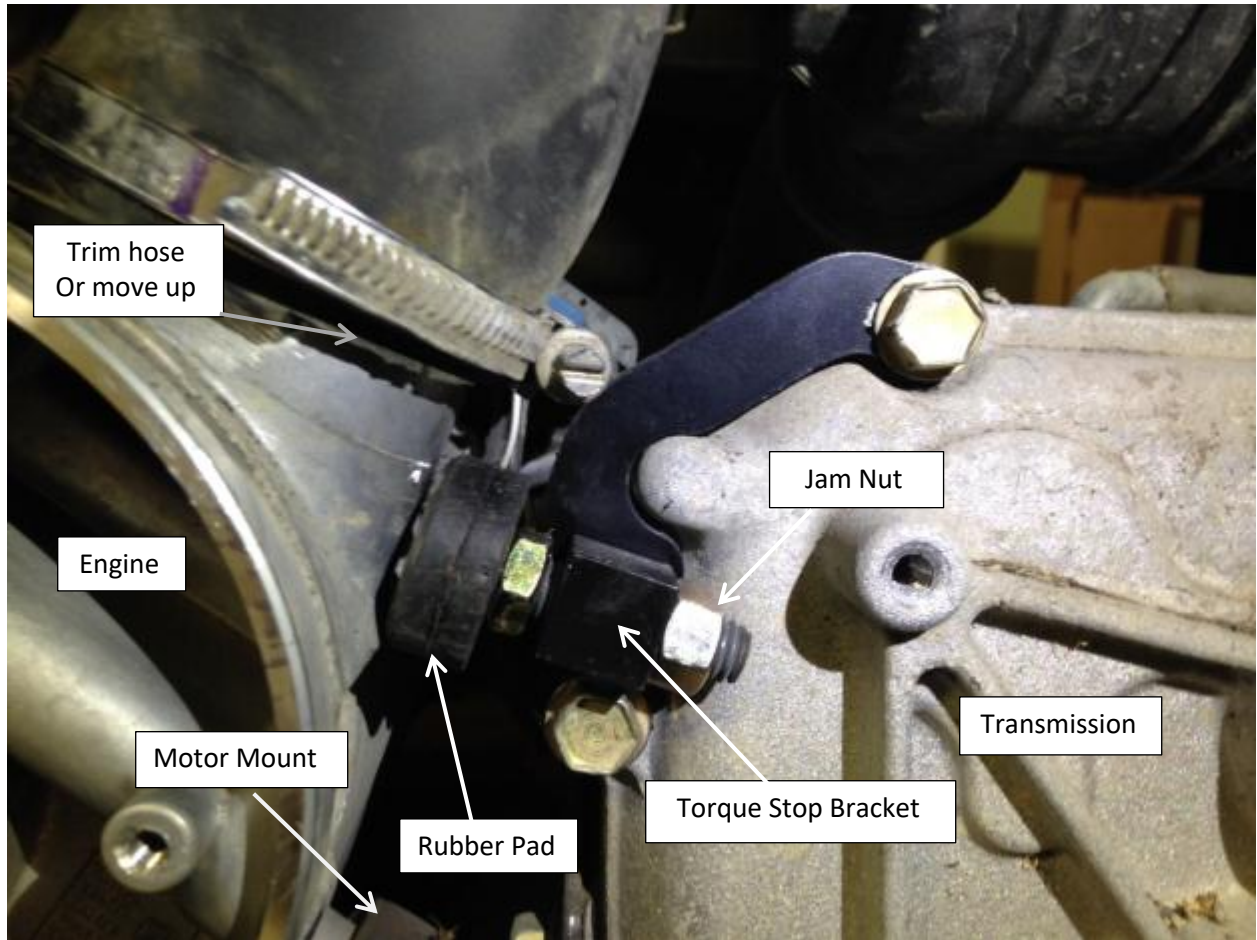
PROCEEDURE TO SET TORQUE STOP:

2. If needed trim hose to clear pad (no need to remove hose to trim) or loosen the hose clamp and move the hose up. Tighten the rubber pad against engine so the pad just touches the engine on the bottom side of the pad. Hold rubber pad from turning and lock jam nut. The upper part of the pad should not be tight against the engine.

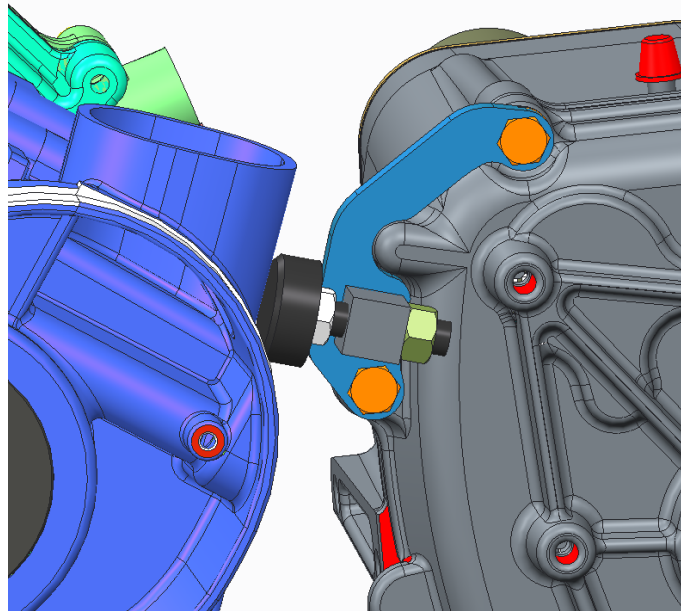
Note: If the pad is tight against the engine when idling or in steady state running, undesirable engine vibration will be felt. When the engine is accelerating mode it should pull back against the rubber pad to keep the belt tight so it won't slip.

3. When reinstalling clutch housing back ensure seals are good or replace with SVI PN 35-061.

PHOTO OF TORQUE STOP INSTALLATION WITH CLUTCH HOUSING BACK REMOVED



MODEL OF TORQUE STOP INSTALLATION WITH CLUTCH HOUSING BACK REMOVED



DURACLUTCH INSTALLATION

1. Remove stock secondary clutch.
2. If there is a snap ring on the shaft, remove it, If there are any washers behind the secondary remove them. Place 2 of the 90-051 provided shims on the shaft then install DURACLUTCH Secondary. Place a drop of BLUE Loctite provided with kit on the secondary bolt threads. Tighten bolt to 20 ft-lbs.
3. Remove Primary clutch bolt and hardware. Remove the Primary clutch with puller SVI 99-030. Greasing the end of the puller slightly will aid in removal. Do not get grease on any clutch components.
4. Clean the engine tapered shaft and Primary clutch bore with alcohol or degreaser. Do not lubricate.
5. Slip the belt into the Secondary so you can read the part number on the belt and using Belt Install Tool open secondary so belt will seat down into clutch. Sometimes a screwdriver is needed to assist lowering into clutch.



6. Slide belt into primary clutch, then install on post. Use primary hardware removed in step 3.



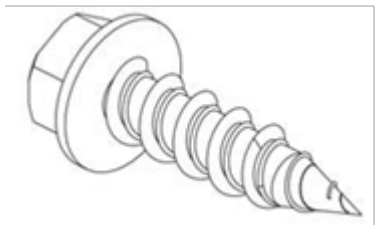
7. Tighten stock primary bolt to **60 ft-lbs. VERY IMPORTANT-** Over tightening will not allow clutch to operate properly and cause damage and failure of the clutch.
8. Set belt tension. Place transmission in Park and make sure machine is turned off. Rotate secondary by hand to seat belt in secondary clutch until belt tension is tight.

9. Once belt tension is set, start machine and verify that the secondary clutch has slight to no rotation at idle. (If slight rotation this will go away after belt break-in) If slight to no rotation, proceed to step 11. If the secondary is spinning fast, proceed to step 10.
10. If the secondary rotates fast, turn machine off and check to see where the belt is riding in between the primary sheaves. The ideal belt location should be centered with a small gap on each side between the sheaves. Follow steps a. or b. to determine the next action.
 - a. If belt is up against fixed sheave (inward), remove belt and secondary screw & secondary and add one shim washer included in kit onto shaft. Install secondary, secondary screw and belt, start machine to reset alignment. If the secondary still rotates fast and rides against fixed sheave, add another shim washer. Repeat until there is slight to no rotation, remember to blue Loctite secondary screw when alignment is complete and torque to spec, proceed to step 11.
 - b. If belt is up against moveable sheave (outward), remove belt, secondary screw & secondary and remove one shim washer. Install secondary, secondary screw and belt, start machine to reset alignment. If the secondary still rotates fast and rides against the movable sheave, remove another shim washer. Repeat until there is slight to no rotation, remember to blue Loctite secondary screw when alignment is complete and torque to spec, proceed to step 11.

11. Install outer clutch housing.

Note: The clutch cover screws are #14 hi-lo screws designed for plastic ($\frac{3}{8}$ " drive). They can be used over and over in the same hole but must not be over-torqued.

Torque spec: 4 ft-lbs/48 in-lbs. This is like a screwdriver torque. Use a hand wrench or a clutch screw gun at a very low setting.



Ensure seal is good or replace with SVI PN 35-061. To ensure the primary does not rub against the cover push up and back on the housing while lightly snugging the bottom screws. Then tighten the top rear screw followed by the other top screws. Then tighten all remaining screws including the bottom screws evenly. After starting the engine if you hear the primary rubbing, push on the cover while the engine is running in different directions to see which way will eliminate the rubbing. Stop the engine and loosen the housing screws and retighten using the above sequence while pushing on the cover in the direction that eliminated the rubbing. If this does not eliminate the rubbing, try installing a new 35-061 gasket and go through the bolt tightening sequence again. If you cannot eliminate the rubbing the cover is heat warped and you may have to install a new cover and perhaps a new back plate. You may also try using a heat gun to remove heat sag in the cover.

12. Drive vehicle for 5 miles to break-in DURACLUTCH kit components.

NOTE: If the transmission shifts hard after break-in there are likely issues other than drag in the clutches. See your dealer or call DURACLUTCH service (218-967-8205).

DECALS

13. Apply two decals as shown – one on the clutch housing and one in the dash area. Clean surface with alcohol or similar non-harsh solvent. Decal application is important to alert service technicians that the standard Polaris clutches have been replaced and a different belt is used.

