



Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

Phone: (250) 248-6024

Fax: (250) 248-6027

Email: info@northwestfabworks.com

Installation Manual for: 2WD-4WD and Hi-Low Shift Collar Detents





Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

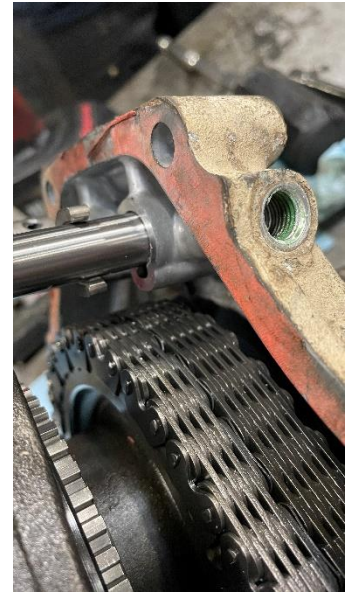
Phone: (250) 248-6024

Fax: (250) 248-6027

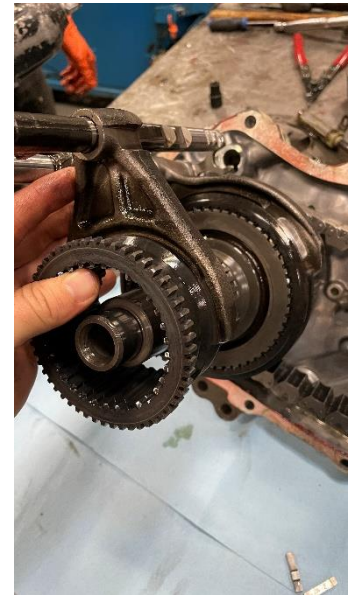
Email: info@northwestfabworks.com

1. Hi-Low Shift Collar Detents Installation

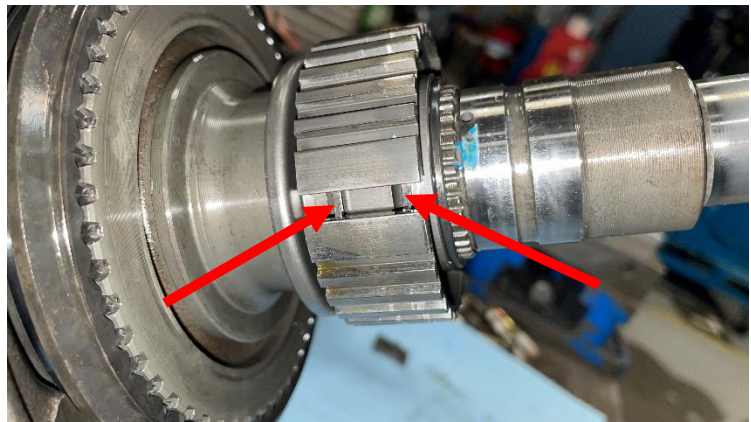
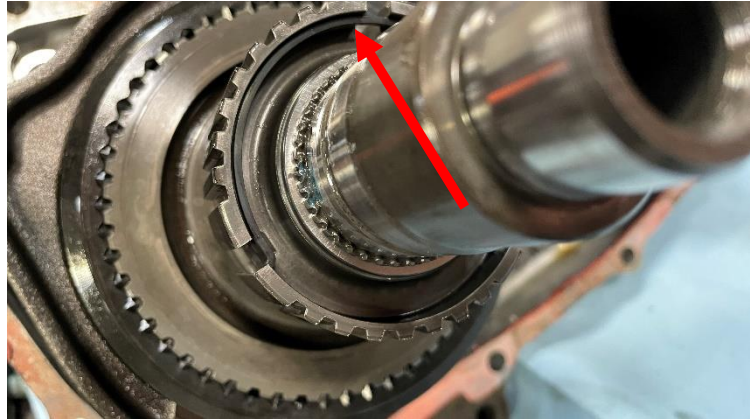
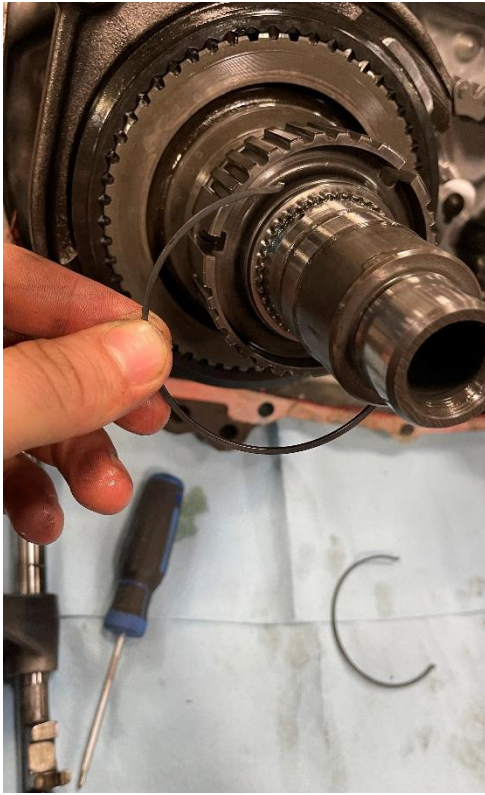
- 1.1. Place the 2WD-4WD shift rail in 4WD. If this is not done, the Hi-Low shift rail **will not** be able to be reinstalled.
- 1.2. Remove the Hi-Low shift rail detent cap, spring, and detent ball.



- 1.3. Remove the shift rail and shift collar.



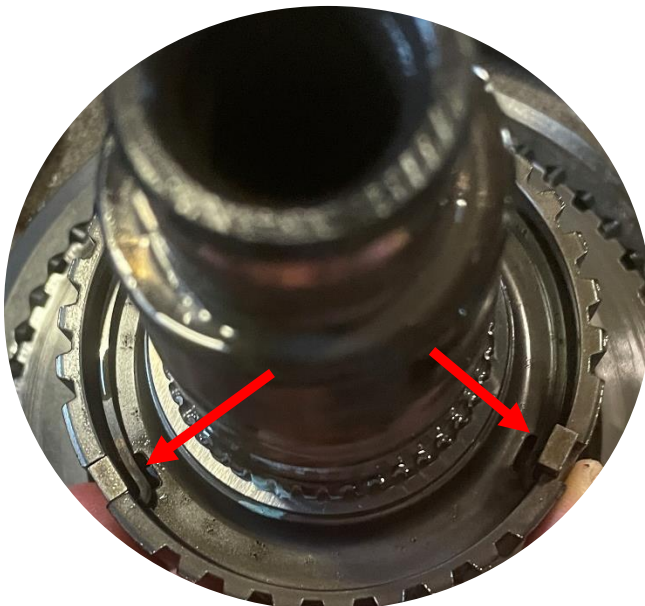
- 1.4. Notice that there are three slots on the Shift Collar Alignment, this is where the three detents sit. There is a spring ring on the front and back of the collar that give the detents the preload to lock in place. Make sure these rings are seated at the inner wall of the alignment piece.



- 1.5. The detents for the Hi-Low shift collar **ARE** directional. Notice that there is a larger step on one end than the other. The larger step sits closest to the 2WD-4WD shift collar. Apply some heavy-duty grease to keep the detents from falling out during the install and place them in the three slots on the Shift Collar Alignment piece.



- 1.6. **IMPORTANT:** The spring rings sitting in the Shift Collar Alignment have a substantial gap. Make sure that the ring is aligned with the three detents so that each detent is spring loaded. If this is not completed, there is a risk that the detent could dislodge itself and damage the internals of the transfer case. Be sure to check the back side ring as well.



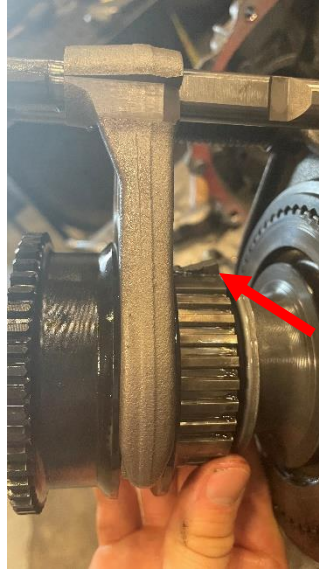


Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

Phone: (250) 248-6024
Fax: (250) 248-6027
Email: info@northwestfabworks.com

- 1.7. Place the Shift Collar and Shift Rail in position to reinstall. The Shift Collar has three spots on the inside teeth that are spaced out with a single tooth in the center of the space. These three center teeth are what run along the detents. Align the Shift Collar with the detents and start the Shift Collar engagement. You should notice that the detents will lift in the rear, that is okay. Look to the front of the detents and make sure they are still sitting on the spring ring and not tucked in front or underneath it.





Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

Phone: (250) 248-6024
Fax: (250) 248-6027
Email: info@northwestfabworks.com

- 1.8. This part takes some finesse and patients. Start working the shift collar back into place. The shift rail can sometimes be sticky going back in, so greasing the end of the shift rail will help. As you work the shift collar back into its seated position, you will need to make sure the detents are still sitting roughly center in the Shift Collar Alignment. They can move back and forth, as long as they don't pop off the spring rings. They can also compress and tilt as you work the shift collar into place, but again, you need to make sure they are not falling out of position. You will have to compress the detents with your fingers in some areas as they start to get tight, but once you pass the bump on the detents the shift collar will snap into place. It will take some good force to get it back into position but should not require excessive force (hitting the collar or shift rail with a hammer, etc.). A rubber mallet or dead blow can help tap the collar back in, but this should be doable by hand. The shift collar will sit flush with the shift collar alignment when fully seated.





Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

Phone: (250) 248-6024

Fax: (250) 248-6027

Email: info@northwestfabworks.com

2. 2WD-4WD Shift Collar Detents Installation

- 2.1. Make sure the Hi-Low shift rail is in the Hi position. Remove the 2WD-4WD shift rail detent cap, spring, and detent ball.



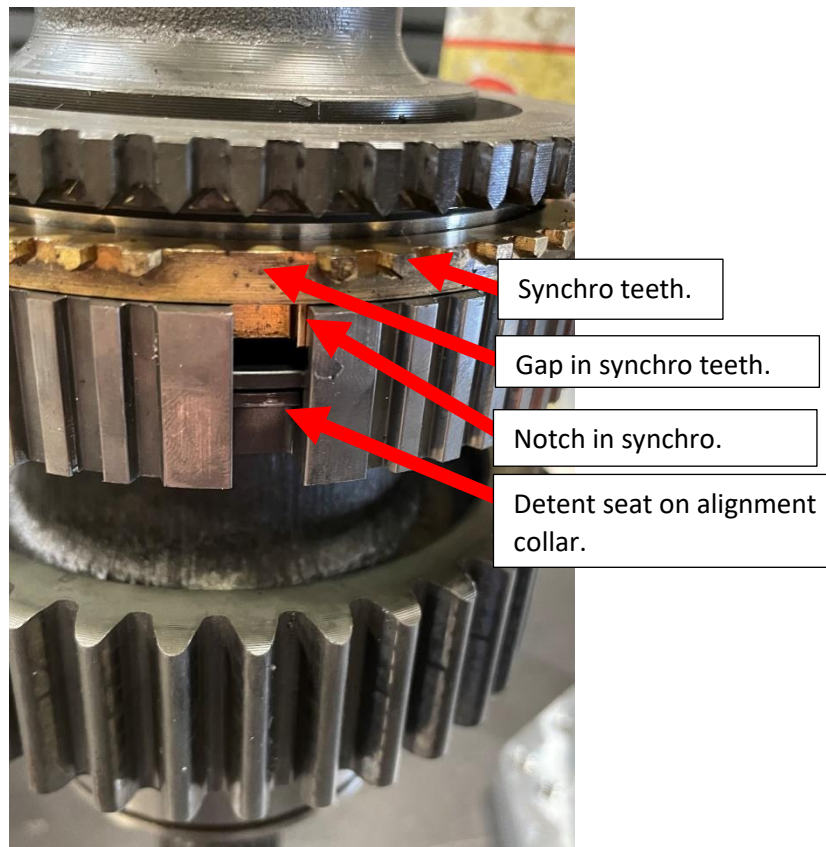
- 2.2. Remove the rear output flange and bearing retainer. Remove the rear output bearing snap ring and pull the output assembly from the transfer case housing.



2.3. Remove the Shift Collar.



2.4. The detent pieces are bidirectional so there is no right side up to installing them. If the bronze synchro is rotated, a notch can be found where there is a gap in the synchro teeth. Align this notch and gap with the seat for the detent.





Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

Phone: (250) 248-6024

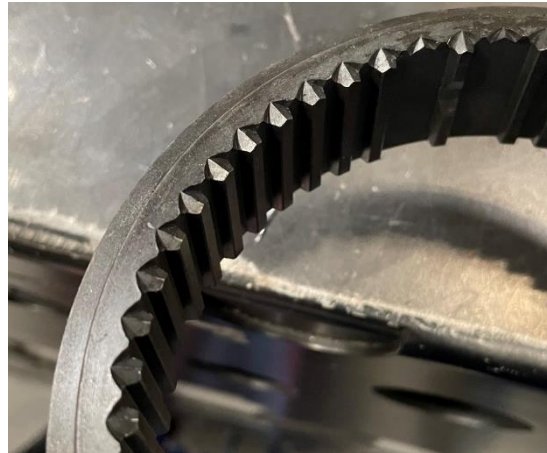
Fax: (250) 248-6027

Email: info@northwestfabworks.com

2.5. Grease the back side of the detent with some heavy-duty grease to help hold it in place.



2.6. The shift collar **IS DIRECTIONAL**. One side has teeth that are pointed and the other has teeth that are flat. Face the pointed teeth up (or away from the flange side of the shaft).





Northwest Fabworks Inc.

1390 Springhill Rd.
Parksville, BC V9P 2B8
Canada

Phone: (250) 248-6024
Fax: (250) 248-6027
Email: info@northwestfabworks.com

- 2.7. There are gapped sections in the teeth of the shift collar. Align the three spaced teeth with the detent pieces and slide the collar onto the shaft. The detents ride on the spaced teeth with the notch in them.



- 2.8. This is where you must play with it until it pops in. Press the top of the detents in so they are tucked under the shift collar. Start pressing the shift collar down. As you work the shift collar into place you will need to press and shift the detents and work on tucking them into the shift collar. They are spring loaded so you will feel some resistance. At about halfway down it will give and pop into place. Feel with your fingers that the detents are sitting flush in the seats. You can install the shaft back into the case.

