



3841 Quest Court #13
 Shingle Springs, CA 95682

ph: 530 677-8111 web: www.inchwormgear.com

P/N: 300-0040

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Rev. Date: 06/18/2011

4cyl. or V6 - 4WD '85-'95 AUTO TRANSMISSION (A340H) to '79-'95 4cyl. 21 SPLINE GEAR DRIVEN TRANSFERCASE

KIT INCLUDES

No.	Part No.	Qty.	Ck. Box	Description
1.	240-0040	1		Adapter Plate - Automatic Transmission Adapter
2.	160-0403	1		Coupler - 23 x 21 Spline
3.	160-0004	1		Seal - 32 x 53 x 7
4.	120-0040	1		Hardware Kit - Automatic Transmission Adapter
5.	100-0401	4		Bolt - Socket - Cap - 10m x 1.25 x 40mm
6.	100-0409	2		Bolt - 14m Hex - 10m x 1.25 x 40mm
7.	100-0802	6		Washer - Lock - 10m
8.	100-0801	2		Washer - Flat - 10m
9.	100-0417	1		Bolt - Hex - 6m x 1.0 x 12mm
10.	100-1606	1		Plug - Expansion - 22mm
11.	100-1601	2		Plug - Flat - Round - Diameter .57" - Thickness .09"
12.	100-0406	1		Bolt - Hex - 3/8" - 24 x 4"
13.	380-2003	1		Park Rod - 3
14.	380-2005	1		Park Pawl - 3
15.	380-2007	1		Park Bracket - 3
16.	260-0040	1		Instruction Sheet - Automatic Transmission Adapter - '84-'95 4wd Automatic x 21 Spline Gear Driven Tcase (Also available on-line)

Note on Clocking Adapters:

This Adapter Kit is Clockable. The major benefit to clocking your transfercase is ground clearance. It is important to note that clocking can cause clearance issues with the floor, e-brakes, shift levers etc. and mounting issues with the crossmember. Before final assembly test fit the transfercase in your truck to see if you would like to clock your cases or not. If so make the necessary adjustments before final assembly and install of transfer cases.

Note on this Kit:

New hole(s) in the floor will be necessary for the shift lever(s). The location of the hole(s) will depend on single/dual cases and vehicle model. Your application may be different so it is best to measure for yourself to ensure the correct location of the hole(s). Crossmember and driveline modifications will be necessary to make your setup work.

PLEASE READ: The components of this kit have been machined for specific applications. Double check you have the correct application for this adapter kit. Any modifications to this kit or the parts in it will void any warranty or return privileges. The instructions are designed to provide information about this adapter. Information about torque specifications, vehicle stabilization, disassembly, fluid recommendations and other related data is best found in repair manuals or factory service manuals available at auto parts stores or dealerships.



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Notes (cont.):

Be careful with hardware on this project. Both the automatic and the manual transferences use bolts with 14mm heads and 10mm threads. However, the Auto uses a coarse thread (1.5 pitch) and the manual uses a fine thread (1.25 pitch). Do NOT mix!

Use extra care when dealing with all electrical. The connectors and sensors (speed sensor in particular) on the automatic transmission are exceptionally brittle. Be extremely careful or you will break them. We have managed to break a few ourselves even being careful!

Due to the complexity of this project we have included information that is important, but it is advised to consult a factory service manual.

Complementary Parts:

You may need more than this kit to build and install your transfer case(s), such as:

Top Shift Conversion Kit, Crossmember, Shift Levers, Low Range Gears, Rebuild Kits, Flanges, Seals, Shafts, Dual Case Adapter Kit, Long Slip Drive Line, and more.

Contact Inchworm Gear or your Local Dealer for recommendations.

AUTO TRANSFERCASE TEARDOWN:

Drain oil pans from both the transmission and transfer case.

Drain transfer case using the drain plug below the front output.

Remove oil pan from the transfer case.

Remove shift lever and shift position switch from transfer case.

Carefully remove speed sensor above transfer case shift lever.

Disconnect wiring and remove valve body from transfer case.



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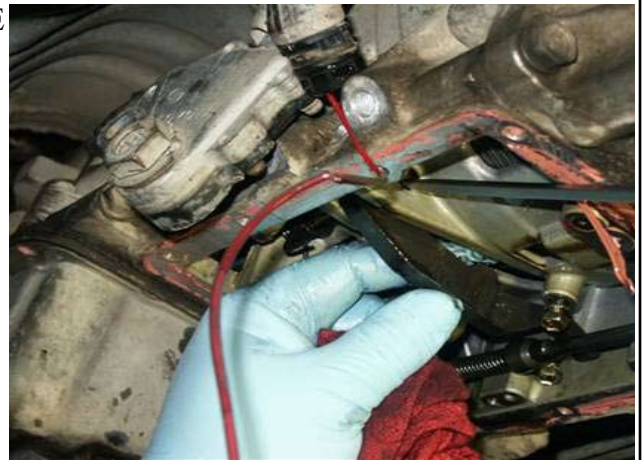
Chisel off sheet metal ring on shift shaft, drive out pin, and remove shaft.

(pic)



Remove park lock pawl bracket, spring, pin, and pawl. **SAVE** the pin and spring to be reused in the transmission.

(pic)



Move to the back of the case and continue teardown starting with the rear flange

Pull layers of the transercase housing and chains, shafts and bearings working your way towards the transmission.

Stop when you get to the back of the transmission, it should look like this. Make sure to leave the sensor rotor on output shaft.

(pic)



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Cut transmission output shaft off at the oil hole between the 2 bearing surfaces. Be sure to cover the open end of the transmission as much as possible to prevent debris from entering.

(pic)



Clean gasket surface and vacuum any remaining shavings from the grinder out of the output shaft.

[TRANSMISSION PARK LINKAGE SWAP](#)

Remove transmission oil pan, oil strainer and oil tubes from bottom of transmission.

Carefully (it's brittle) disconnect solenoid wiring and throttle cable

Caution – There are several springs and a check ball that will fall out when removing the valve body. Pay attention to these parts so you'll know where to reinstall them and so they don't get lost.

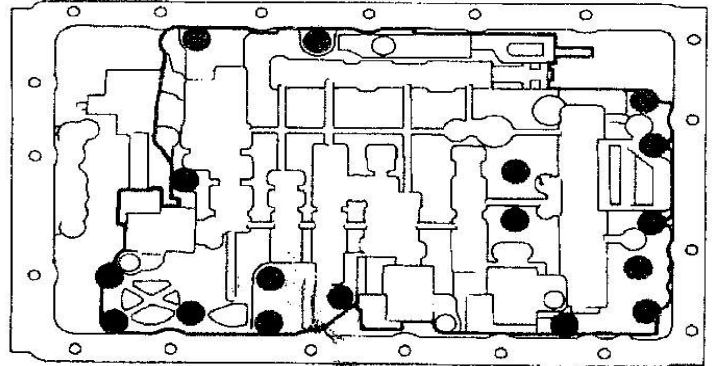
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Remove 16 bolts to remove the valve body
(pic)



Remove the transmission shift lever and
position switch underneath it.
(pic)



Remove park rod from shift linkage.



Install new park lock pawl (PN 380-
2005) with spring and pin that was
removed from the transfer case. (pic)

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Install new park lock rod (PN 380-2003) and new park lock bracket (PN 380-2007) with 2 bolts from the auto transfer case and the supplied 6m x 12mm bolt (PN 100-0417).

(pic)



Install valve body. Connect throttle cable. Align groove of manual valve to pin on the shift linkage. Make sure that the springs and check ball are installed correctly.

Install 16 bolts. Torque spec is 7 ft-lb.

Reconnect solenoid wiring. Reinstall oil tubes. Clean and reinstall oil strainer. Clean and reinstall oil pan with gasket or right stuff. Torque spec is 65 in-lb.

[AUTO REDUCTION CASE PREP](#)

Use a bit of silicone to glue oil passage plugs (PN 100-1601) in place of 2 front rubber seals. Be sure that the new plugs do not sit higher than the front surface of the reduction case or they may cause leaks or breakage.

(pic)



Remove shift shaft oil seal. Install 22mm expansion plug (PN 100-1606) in place of shift shaft oil seal with some gasket sealant.



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Insert the 3/8 x 4" bolt (PN 100-0406) into the end of the shaft. The bolt will be held in later by the input of the transfer case.

Insert coupler (PN 160-0403) by matching splines and pushing on until the coupler bottoms out on the splines

Coat the gasket surface on the front of the reduction auto box with silicone sealant.

Reinstall reduction case to rear of transmission.

Reinstall Speed sensor.

Trim rear edge of oil pan so that it doesn't protrude past the rear gasket surface of the reduction case. Another option is to remove the oil pan and replace it with sheet metal.

Reinstall oil pan or sheet metal. Torque spec is 65 in-lb.

TRANSFERCASE ADAPTER PREP

The Auto Adapter (PN 240-0040) can accept both V6 and 4 cyl applications. Your adapter comes ready to bolt up to the V6 transmission. If you have a 4cyl transmission you will need to finish drill two holes and finish slot another on the backside of the adapter to make it bolt up. The holes have been started for you so drilling is a snap. Use a 7/16" drill bit.

Choose your clocking position for the adapter to transfer case interface. Depending on the clocking position, choose the 6 holes on the front side of the adapter that line up with the corresponding holes on the transfercase and finish drilling them. Use a 7/16" drill bit.

Test fit the adapter to the reduction box and mark the holes you will be using and mark the reduction box (gear driven transfer case) if needed so it can be ground for bolt clearance.

Check the shift rail clearance with the adapter plate. If the rails stick out more than 5/8" with the transfercase in 4wd-High they will need to be trimmed.

Some transfercases have an unused raised boss where indicated in the image to the right. If so clearance the boss for easier installation.



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Clearance the reduction box (gear driven transfer case) for bolt and wrench clearance, if needed. Be careful not to remove too much material or you may cause leaks.

Depending on your clocking choice, some bolts that go through the adapter and into the transmission tailhousing will need to go into their holes in the adapter before bolting the adapter up to the transfer case.



Test fit the adapter, be sure to use bolts with the right thread pitch!

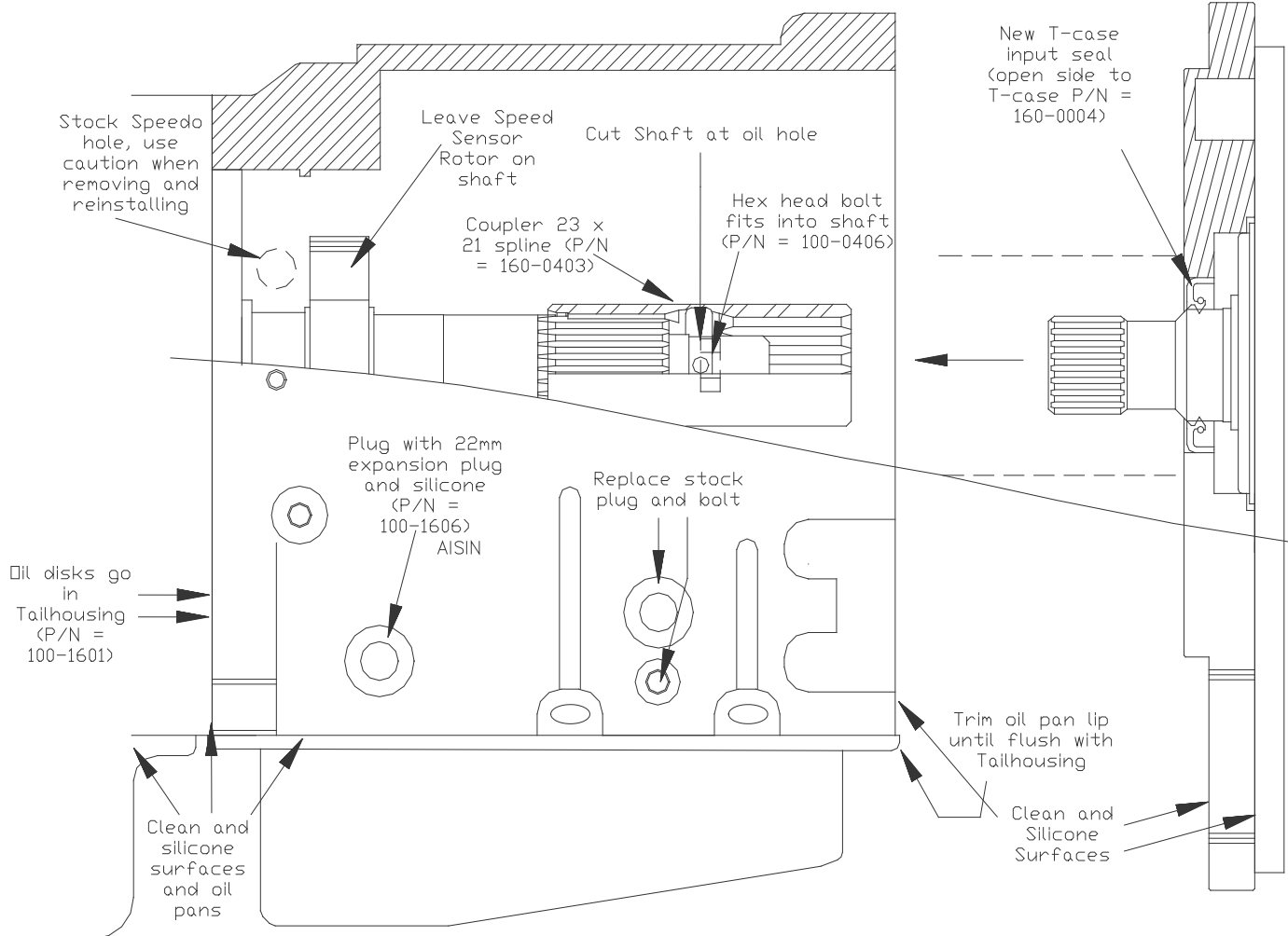
Lightly ruff gasket surfaces on adapter plate with Scotch Bright. Clean gasket surfaces to assure a good seal.

Coat the gasket surface on the front of the reduction box (gear driven transfer case) with silicone and bolt the adapter up using two 10mm x 40mm Hex Head bolts (PN 100-0409) with lock and flat washers in the lower two holes and four 10mm x 40mm Socket Head bolts (PN 100-0401) with lock washers for the upper four holes. Install Oil Seal (PN 160-0004) around transfercase input shaft.

Coat the gasket surface on the back of the tailhousing with silicone and bolt the adapter/transfer case assembly up to the back of the auto reduction case.



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