Instruction Data Sheet

MULTIPLE APPLICATIONS

PART NUMBER **SERVO-FIX**

Servo Pin Bore Reaming Fixture

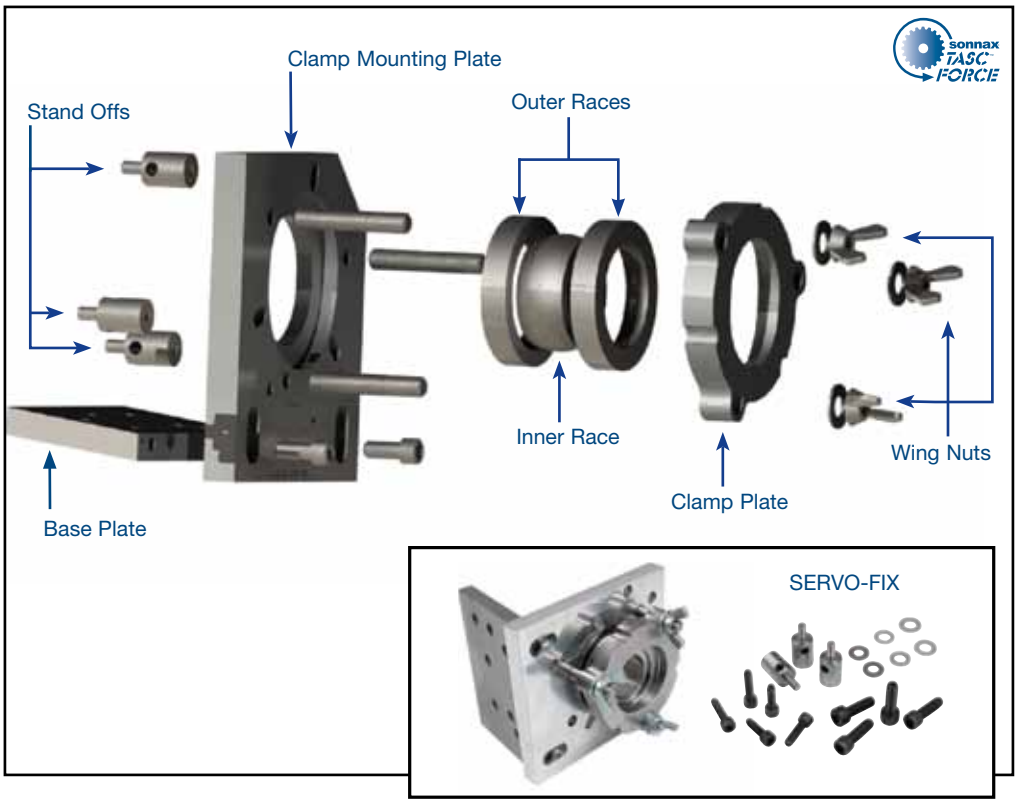
SERVO-FIX

- Base Plate
- Clamp Mounting Plate
- Clamp Plate
- Outer Races (2)
- Inner Race
- Studs (3)
- Washers (3)
- Wing Nuts (3)
- Hardware Mounting Kit

Patent No. 7,771,144

SERVO FIXTURE REQUIRED

Sonnax has designed special tool kits to service a specific servo pin bore, and they must be used in conjunction with the Servo Pin Bore Reaming Fixture, **SERVO-FIX**. Part numbers for these specially designed tool kits begin with an "S" to distinguish them from both the F-series tools that work with the **VB-FIX**, and the traditional Sonnax tool kits.



MOUNTING INSTRUCTIONS

SERVO-FIX Assembly Instructions

1. Install the three threaded studs into the clamp mounting plate.

NOTE: Tighten two 3/8-16 nuts (not included) as jam-nuts (**Figure 1**) onto the longer threaded end of the stud to help with stud installation. Remove nuts when done. Verify clamp plate slides easily over studs before proceeding.

2. Coat inner race and two outer races with a thin film of lightweight grease and assemble into the pocket of the clamp mounting plate. Use the exploded view as a guide.
3. Install the clamp plate, washers and wing nuts.

The SERVO-FIX clamp plate is designed to bolt to a variety of cases, and the plate is clearly marked as to which holes to use to repair servo pin bores in multiple applications. If working on a 5R55N/W/S, two bore locations are identified: one for the overdrive location, the other for the intermediate. Locations are also marked for the AOD & E, AXODE, AX4N, and 4L30-E, 180.

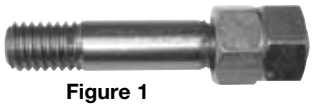


Figure 1

Clamp Mounting Plate with Locations

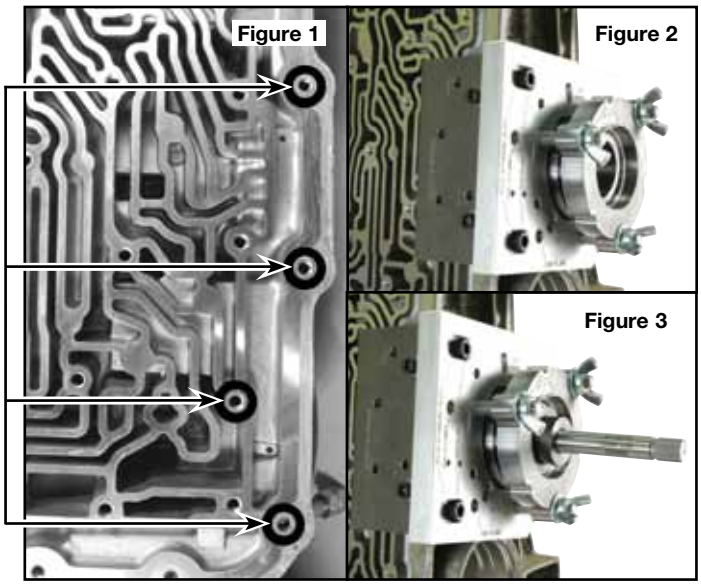
5R55N/W/S Mounting Instructions

S-56361J-TL

- Drill
- Roughing Reamer
- Finishing Reamer
- Guide Pin
- Reamer Guide
- Installation Handle
- Pilot
- O-Rings (2)
- Flex Hone

Tool kit used in conjunction with:

Overdrive & Intermediate Servo Pin Bore Sleeve Kit
56361J-01K



1. Verify fit of alignment pin prior to mounting SERVO-FIX.

Check the fit of the guide pin (labeled 5R55 Servo Guide Pin) in the intermediate and overdrive servo pin bores. The guide pin should be snug but slide in and out of the bore without excessive resistance. Remove any ridges inside the bore using the supplied flex hone and a drill.

2. Mount SERVO-FIX to case.

a. Assemble the base plate to the clamp plate as shown in **Figure 2**. Holes in the clamp mounting plate are labeled for CD4E/5R55N/S/W-OD for front (OD) servo and 5R55N/S/W-INT for intermediate servo.

b. Mount the SERVO-FIX at the hole locations identified on the base plate and case (**Figure 1**) using screws from the hardware kit. Tighten fixture securely in place.

c. Install the reamer guide (labeled Servo Pin Bore) into the inner race of the servo fixture. Install the guide pin (labeled 5R55 Servo Guide Pin) through the reamer guide and into the servo pin bore (**Figure 3**). Pin should slide smoothly with no binding.

d. Lightly tighten and sequentially snug down all three wing nuts while verifying pin is not bound up. Wiggling the guide pin may also be necessary during this process to keep the guide pin moving freely. Do not use pliers or tools to tighten the wing nuts. Do not over-tighten wing nuts as this will cause misalignment.

e. Recheck to verify alignment pin slides in and out of bore. If pin does not slide freely, loosen wing nuts and retighten.

NOTE: Refer to the instructions for **56361J-01K** and **S-56361J-TL** for complete reaming and installation procedures.

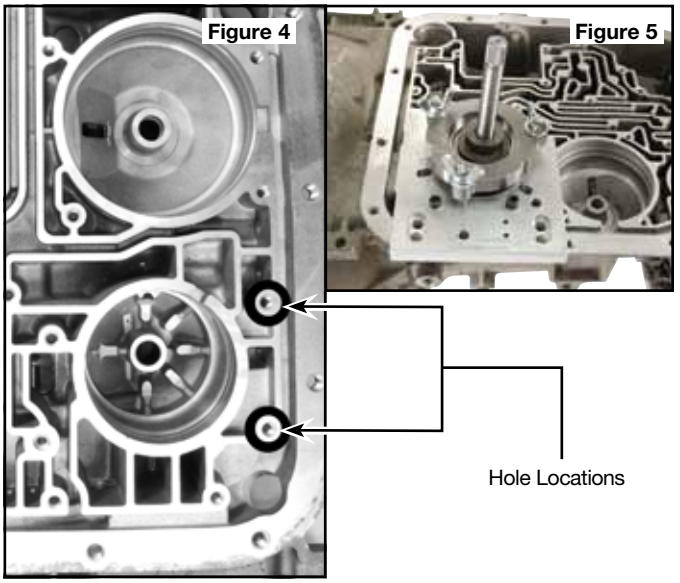
AOD & E, 4R70W, 4R75W Mounting Instructions

S-76890-TL24

- Drill
- Roughing Reamer
- Finishing Reamer
- Guide Pin
- Reamer Guide
- Installation Handle
- Pilot

Tool kit used in conjunction with:

Servo Pin Bore Sleeve Kit
76890-24K



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1. Verify fit of alignment pin prior to mounting SERVO-FIX.

Check the fit of the guide pin (labeled AOD/E, 4L30E, 180) in the overdrive servo pin bore. The guide pin should be snug, but slide in and out of the bore without excessive resistance.

2. Mount SERVO-FIX to case.

NOTE: The base plate is not used with the AOD & E, 4R70W, 4R75W applications. Holes in the clamp mounting plate are labeled AOD&E for front (OD) servo.

a. Mount the SERVO-FIX at the hole locations identified on the clamp plate and case (**Figure 4**), using screws from hardware kit. Tighten fixture securely in place.

b. Install the reamer guide (labeled S-SERVO-RJ) into the inner race of the SERVO-FIX (**Figure 5**). Install the guide pin through the reamer guide and into the servo pin bore. The pin should slide smoothly with no binding.

c. Lightly tighten and sequentially snug down all three wing nuts while verifying pin is not bound up. Wiggling the guide pin may also be necessary during this process to keep the guide pin moving freely. Do not use pliers or tools to tighten the wing nuts. Do not over-tighten wing nuts as this will cause misalignment.

d. Recheck to verify alignment pin slides in and out of bore. If pin does not slide freely, loosen wing nuts and retighten.

NOTE: Refer to the instructions for **76890-24K** and **S-76890-TL24** for complete reaming and installation procedures.

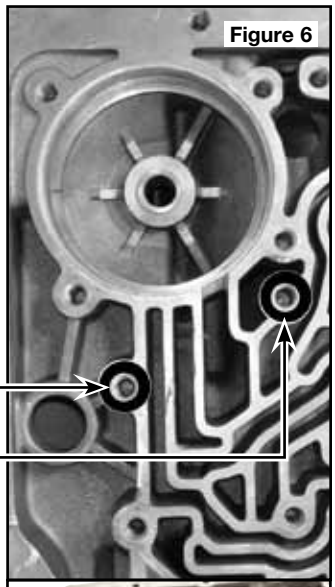
4L30-E, 180 Mounting Instructions

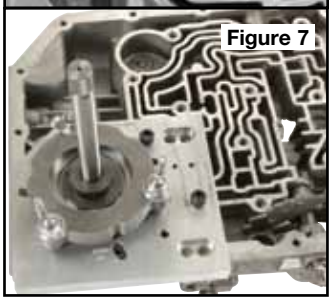
S-76890-TL24

- Drill
- Roughing Reamer
- Finishing Reamer
- Guide Pin
- Reamer Guide
- Installation Handle
- Pilot

Tool kit used in conjunction with:

Servo Pin Bore Sleeve Kit
76890-24K





1. Verify fit of alignment pin prior to mounting SERVO-FIX.

Check the fit of the guide pin (labeled AOD/E, 4L30E, 180) in the overdrive servo pin bore. The guide pin should be snug, but slide in and out of the bore without excessive resistance.

2. Mount SERVO-FIX to case

NOTE: The base plate is not used with the 4L30-E, 180 applications. Holes in the clamp mounting plate are labeled 180C/4L30E.

a. Mount the SERVO-FIX at the hole locations identified on the clamp plate and case (**Figure 6**), using screws from hardware kit. Tighten fixture securely in place.

b. Install the reamer guide (labeled S-SERVO-RJ) into the inner race of the SERVO-FIX (**Figure 7**). Install the guide pin through the reamer guide and into the servo pin bore. The pin should slide smoothly with no binding.

c. Lightly tighten and sequentially snug down all three wing nuts while verifying pin is not bound up. Wiggling the guide pin may also be necessary during this process to keep the guide pin moving freely. Do not use pliers or tools to tighten the wing nuts. Do not overtighten wing nuts as this will cause misalignment.

d. Recheck to verify alignment pin slides in and out of bore. If pin does not slide freely, loosen wing nuts and retighten.

NOTE: Refer to the instructions for **76890-24K** and **S-76890-TL24** for complete reaming and installation procedures.

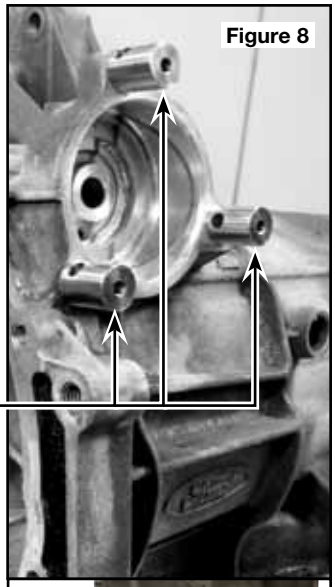
AXOD & E, AX4S & N, 4F50N Mounting Instructions

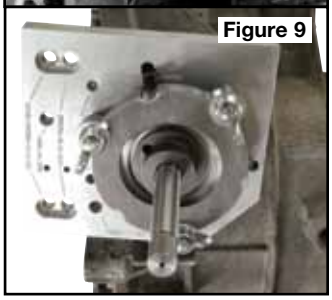
S-96872-TL

- Drill
- Roughing Reamer
- Finishing Reamer
- Guide Pin
- Reamer Guide
- Installation Handle
- Pilot

Tool kit used in conjunction with:

Servo Pin Bore Sleeve Kit
96872-01K





1. Verify fit of alignment pin prior to mounting SERVO-FIX.

a. Check the fit of the guide pin (labeled AXOD/E, AX4N/S Guide Pin) in the overdrive servo pin bore. The guide pin should be snug, but slide in and out of the bore without excessive resistance.

b. Install the three stand-offs as shown in **Figure 8**.

2. Mount SERVO-FIX to case.

NOTE: The base plate is not used with the AXOD & E, AX4N, 4F50N applications. Holes in the clamp mounting plate are labeled are labeled UP-AXOD and UP-AX4N.

a. Mount the SERVO-FIX at the three slotted hole locations nearest the clamp plate (**Figure 8**). For AXOD & E applications, the hole labeled UP-AXOD must be at the top location. For AX4N, 4F50N applications, the hole labeled UP-AX4N must be at the top location. (AXODE shown in **Figures 8 & 9**.) Tighten fixture securely in place.

b. Install the reamer guide (labeled S-SERVO-RJ) into the inner race of the SERVO-FIX. Install the guide pin through the reamer guide and into the servo pin bore (**Figure 9**). The pin should slide smoothly with no binding.

c. Lightly tighten and sequentially snug down all three wing nuts while verifying pin is not bound up. Wiggling the guide pin may also be necessary during this process to keep the guide pin moving freely. Do not use pliers or tools to tighten the wing nuts. Do not over-tighten wing nuts as this will cause misalignment.

d. Recheck to verify alignment pin slides in and out of bore. If pin does not slide freely, loosen wing nuts and retighten.

NOTE: Refer to the instructions for **96872-01K** and **S-96872-TL** for complete reaming and installation procedures.

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