ADVANCE ADAPTERS
SINCE NINETEEN SEVENTY ONE

P.O. Box 247, 4320 Aerotech Center Way
Paso Robles, CA 93447
Telephone: (800) 350-2223 Fax: (805) 238-4201

 Page Rev. Date: 04-05-18

P/N: Atlas Front output

#	No.	Description	Quantity
1	300476	YOKE NUT	1
2	PAGE 2	FRONT OUTPUT YOKE	1
3	300473	SEAL FOR 2.125 YOKE DIAMETER	1
3	300502	SEAL FOR 1.875 YOKE DIAMETER	1
4	301410	BOLT- 3/8 -16 x 1.25 H.F.C.S. NON SERRATED	8
5	300103A	HOUSING- ATLAS OUTPUT FRONT 32T 5"	1
6	300490	O-RING-ATLAS 4.56 & 5.00" BORE	1
7	300123	SHAFT- ATLAS FRONT OUTPUT 32T	1
8	300393	WASHER- ATLAS FRONT OUTPUT THRUST	1
9	300513	BEARING-TAPERED SET CUP & CONE	1
10	300517	BEARING-ATLAS NEEDLE HIGH SPD GEAR	2
11	PAGE 2	FRONT OUTPUT GEAR	1
12	300105	COVER- ATLAS REAR BEARING	1
12	300105A	COVER- 5 BOLT ATLAS REAR BEARING	*1 NOT SHOWN*
12A	300490	O-RING 5 BOLT CAP	*1 NOT SHOWN*
12	300105B	BEARING CAP FOR 300105A	*1 NOT SHOWN*
12A	300494	O-RING BEARING CAP	*1 NOT SHOWN*
13	300371	SYNCHRO SLIDER-ATLAS	1
13A	*300370*	*SYNCHRO-ATLAS BRASS RING*	*2 NOT SHOWN*
13B	*300372*	*SYNCHRO KEY- ATLAS*	*3 NOT SHOWN*
13C	*300373*	*SYNCHRO SPRING-ATLAS*	*2 NOT SHOWN*
14	300518	BEARING-ATLAS LOW SPD GEAR	1
15	PAGE 2	LOW SPEED GEAR	1
16	300509	WASHER- ATLAS FRONT OUTPUT	1
17	300511	BEARING-ATLAS FRONT OUTPUT CONE	1
18	300512	BEARING-ATLAS FRONT OUTPUT CUP	1
19	300105S	SHIMS-ATLAS BEARING CAP	2
20	300495	PLUG-REAR BEARING CAP	1
21*	301401	BOLT 5/16 -18 X 1.00" FHHCS	4

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Front Yoke Options: includes the Nut and Seal

A1310 - 32 SPLINE NON CV 1310 YOKE KIT
A1310CV - 32 SPLINE CV 1310 YOKE KIT
A1330CV - 32 SPLINE CV 1330 YOKE KIT
A1350 - 32 SPLINE NON CV 1350 YOKE KIT
A1350CV - 32 SPLINE CV 1350 YOKE KIT
A1410 - 32 SPLINE NON CV 1410 YOKE KIT Strap style yoke
A1410U - 32 SPLINE NON CV 1410 YOKE KIT U-Bolt style yoke
AF1300 - 32 SPLINE 1310/1330/1350 FLANGE YOKE KIT
AF1410 - 32 SPLINE FLANGE 1410 YOKE KIT
AF1410STD - 32 SPLINE FLANGE 1410 YOKE KIT
AF1480 - 32 SPLINE FLANGE 1480 YOKE KIT
AFTOY - 32 SPLINE FLANGE TOYOTAYOKE KIT

Front Output Gears:

309315-FF - 1.5 FRONT OUTPUT GEAR (USED IN ATLAS15-G2)
309315-FFA - 2.11 FRONT OUTPUT GEAR (USED IN ATLAS20 & G2)
309330-FF - 3.0 FRONT OUTPUT GEAR (USED IN ATLAS30 & G2)
309338-FF - 3.8 FRONT OUTPUT GEAR (USED IN ATLAS38 & G2)
309343-FF - 4.3 FRONT OUTPUT GEAR (USED IN ATLAS43 & G2)
309350 - 5.0 FRONT OUTPUT GEAR (USED IN ATLAS50)

Low Speed Output Gears:

309515-FF - 1.5 LOW SPEED GEAR (USED IN ATLAS15-G2)
309530-FF - 2.11/3.0/3.8/4.3 LOW SPEED GEAR
309550 - 5.0 LOW SPEED GEAR (USED IN ATLAS50)

Front Output Sub-assembly (current design):

Tools required: Impact gun, ¼ Allen wrench socket, 1/2 & 9/16 inch socket, Snap ring pliers, Arbor Press.
The Atlas also offers a 5 bolt rear cap housing that we use on our G2 cases, the parts not shown are 300105A, 300105B, (2) 301401, (5) 301410. you would not use the 300105.

Current 300103A front output housing

The earlier versions of the Atlas were similar to the exploded view above. They did have a smaller index bore 4.68” to the case and only used 5 bolts to mount the front retainer to the case. Kit AF32A is the complete kit for the 5 bolt retainer and the parts list is listed to the right.

300490	O-RING-ATLAS 4.56 & 5.00" BORE	1
300517	BEARING-ATLAS CAGED NEEDLE	2
300371	SYNCHRO SLIDER-ATLAS	1
300513	BEARING-TAPERED SET	1
300103	***HOUSING- FRONT RECONDITIONED***	***1***
300123	SHAFT- ATLAS FRONT OUTPUT 32T	1
300393	WASHER- FRONT OUTPUT THRUST	1
300370	SYNCHRO-BRASS RING	2
300372	SYNCHRO KEY- ATLAS	3
300373	SYNCHRO SPRING-ATLAS	2
300509	WASHER- FRONT LOW SPD GEAR	1
300511	BEARING-FRONT M86649 CONE	1
300512	BEARING-FRONT M86610 CUP	1
300518	BEARING- NEEDLE LOW SPD GEAR	1
723730	BOLT 3/8 -16 X 1.25" SHCS ZNC	5

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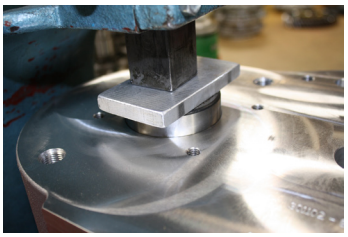
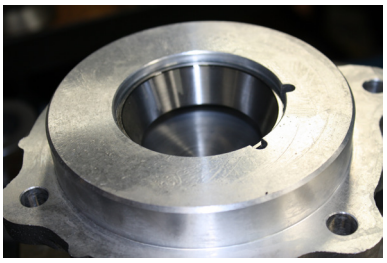
Front output install and bearing preload adjustment:



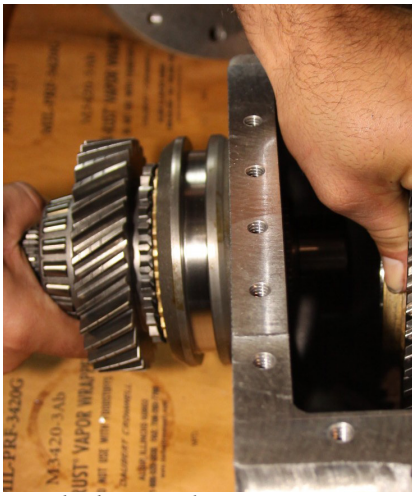
We offer two different rear caps for the Atlas and both of the caps are where the tapped bearings are shimmed.

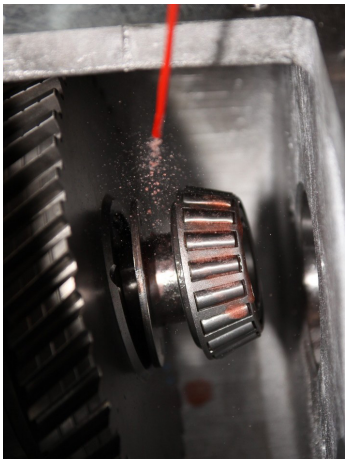
The four bolt cap requires the rear bearing to be installed into the main case. The bearing should be pressed so the bearing surface and the machine surface are on the same plane.

The five bolt retainer has the bearing installed directly into the retainer. The bearing goes into the housing from the machined side and the retainer has a alignment index to help get the bearing installed. We use a press tool that sets the bearing at the proper location which is approximately .180" recessed.



The photos show the rear 300105A with the new bearing and install tool we use. This retainer uses a O-ring on the bore to the case and the bolts need to be loctited on the threads.





With the rear bearing or rear cap install in the case, install the front output assembly. Note: the low speed gear will not fit through the front of the case, set the low gear into the case and as you load the front assembly into the case slip the gear onto the shaft and bearing. The thrust washers and tapered bearing will nee to be installed, lubricated and align into the rear bearing. Flip the case on end as shown. This will allow the front retainer to be installed. This will trap the bearing into the case. Flip the case so the pan opening is on the bottom and try spinning the front input shaft. It should have a slight resistants on turning. If the shaft is tight you will need to tap on the retainers to allow the bearings to seat properly. Once the shaft has a slight resistance it will need to be shimmed

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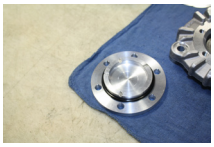
Square Bearing Cap: Measure the depth of the cap, measure the stick out of the rear bearing in the case. *See below on how to calculate for the shims to use.* Once the shims are identified place them in the rear cap, silicone around the outer surface and on the bolt threads. Install and then check the feel on the shaft.





ROUND 5 Bolt Bearing Cap: Measure the depth of the cap(the photo shows the rear cap off the case however during these steps it will be on the case), measure the stick out of the rear bearing cap. *See below on how to calculate for the shims to use.* Once the shims are identified place them between the rear bearing support and the cap. Make sure the O-ring is installed and bolt the rear cap using loctite on the bolt threads. Check the feel on the shaft to make sure end play was correct.

Factory preload specification on the bearings: 0.000-0.0015"At 65-80°F
Example preload calculation: Bearing depth (D): 0.130" (example)
cap or retainer(H): 0.113" (example)
Desired preload (P): 0.001"
Equation: D – H + P = required thickness of shims or for example 0.130" - 0.113" + 0.001" = .018"
(Required thickness of shims)
Measure the shims to come to the required thickness.