

ATLAS 2 SPEED RACER REBUILD KITS

P/N AB2000 EARLY ATLAS

Qty	Part No.	Description
2	300355	CLUSTER THRUST WASHERS
2	300358	O-RING CLUSTER SHAFT
2	300476	YOKE NUTS
1	301400	PAN GASKET
1	716453	SNAP RING
1	O10160	INPUT GEAR SHIM .006
1	300122	CLUSTER PIN

P/N AB2001 ATLAS LATER THAN SER. # 12314

Qty	Part No.	Description
2	300355	CLUSTER THRUST WASHERS
2	300358	O-RING CLUSTER SHAFT
2	300476	YOKE NUTS
1	301400	PAN GASKET
1	716453	SNAP RING
1	O10160	INPUT GEAR SHIM .006
1	300122A	CLUSTER PIN (NEW LONGER)

P/N AB2002 RACE CASE ATLAS

Qty	Part No.	Description
2	300355	CLUSTER THRUST WASHERS
2	300358	O-RING CLUSTER SHAFT
2	300476	YOKE NUTS
1	301400	PAN GASKET
1	716453	SNAP RING
1	300122A	CLUSTER PIN

The shim is not needed on the cases that we have removed the snap ring that retains the bearing in the input retainer.

P/N AB2003 RACE CASE BIG BORE

Qty	Part No.	Description
2	300356	CLUSTER THRUST WASHERS 1.5"
2	300366	O-RING CLUSTER SHAFT 1.5"
2	300476	YOKE NUTS
1	301400	PAN GASKET
1	716453	SNAP RING
1	300122B	CLUSTER PIN 1.5"

The shim is not needed on the cases that we have removed the snap ring that retains the bearing in the input retainer.

These items listed are Atlas components that must be inspected after each race. These are items that we have seen the most wear on after extreme use and, if not addressed, it can cause unit failure.

The cluster pin and its contact area on the case is the most important area to inspect. The cluster pin should be smooth without any ridges on the shaft; the case should have nice smooth round bores. The high horsepower rigs that are on and off the throttle numerous times during competition causes stress on the helix cut gears. After repetitive abuse, this starts to hammer on the case and the pin. The pin can be changed out for a new one; however, if the case bore gets oblong then a new case is the next step. If these items are ignored, the cluster gear will eventually be able to move enough to cause a gear alignment issue and complete gear box failure. One additional area that should be inspected and replaced when parts are showing wear is the cluster gear thrust washers. The thrust washers on the cluster gear are items that should be inspected and replaced if necessary since they keep the cluster gear in tolerance from thrusting back to front.

The other components in this kit are new yoke nuts that need to be installed and torqued to 150 ft.-lbs. and then paint marked to make sure no movement on the nut is made. If the nut loosens, it will allow gear misalignment to the cluster. We use to have a rubber seal washer that was used under the nut, but that was removed and we now just recommend silicone to prevent leakage.

Part number O10160 is a shim for the input gear of the transfer case. Every shaft and gear has an acceptable tolerance for machining. When we assemble the input gear to the input shaft, you will have a small amount of end play between the gear, snap ring and bearing. On a daily driver, this is very acceptable; however, on a race rig (dealing with repetitive abuse and the on and off of the throttle) the helix gears will pull and push this gear on the shaft. We have seen this act as a slide hammer, pulling the snap ring that retains the input bearing in the aluminum housing. By shimming it tight to the shaft, this problem can be avoided.

The shim gets installed into the input housing under the bearing, if the snap ring can not go into the casting after the shim is installed then the shim needs to be removed.

ATLAS 2 SPEED RACER REBUILD KITS



In the racing applications these are the most common areas we see problems with the Atlas. One additional suggestion on regular maintenance is to look at removing the synchro rings, dogs, and springs. Please be aware that the shift block springs must be updated if the synchros are removed, P/N 300395 (2 each) P/N 300396 (2 each).

The items listed on Page 1 are upgrades for older units. If you find that you have a bad cluster pin bore on your case and need a new one or you're looking at upgrading, we do have some new items that make the Atlas more durable in the racing environment. **Note:** We still recommend the unit to be taken down and inspected after each race; however, we haven't seen the wear on the components on the newer upgraded case.

Race case : Has a steel sleeve to avoid distortion to the case bore. (*Note:* This new case has larger front index bores for the input retainer and front output. It also has a redesigned rear bearing cap. Upgrading to this case will require these three housings to be changed. The index bores were changed to make the Atlas case a universal drop, left or right.)

cluster pin: 300122A

input retainer: Billet aluminum with a bolt on bearing retainer.

gearing options and strength upgrades: We now offer a 1.5:1 option and we offer the Atlas in the "SF" option for more strength.

Big bore race case option "new in the 1.5:1 gear sets 2016" and coming to 2.0/3.0 & 3.8 in 2017.