



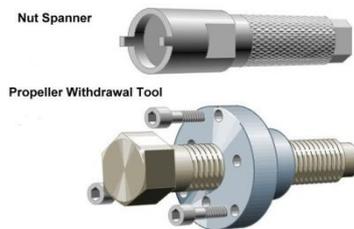
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BEARING REPLACEMENT INSTRUCTIONS H9 TAB SCREW ROLLER BEARING

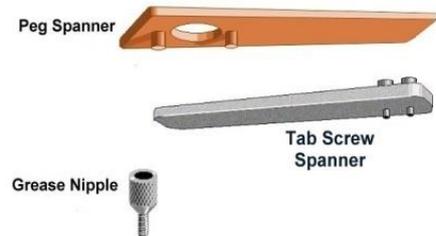
This instruction sheet will accompany your Autoprop bearing replacement kit. You must follow these instructions to ensure that your Autoprop provides reliable and trouble free service. **WARNING.** Do not attempt to change out your bearings without these instructions. Should you have any difficulties with the following procedures then you should contact your Autoprop dealer for assistance and quote your AP serial number.

Tools required for bearing replacement

- Autoprop peg spanner (Code: [APPEGSPANNER])
- Autoprop lock screw spanner (Code: H6H9LSSPANNER)
- Autoprop nut spanner (Code: H9NUTSPANNER)
- Torque spanner and socket to fit Autoprop nut spanner
- Small flat blade screwdriver
- Thread locking



Autoprop tools for maintenance



Blade Removal

We recommend that you remove your Autoprop, using the withdrawal tool H9 PP, to carry out the bearing replacement. Working on the Autoprop held in a vice makes this operation easier, cleaner and faster.

1. Remove grease channel screws (1) (7) on all three blades and discard.
2. Fit the peg spanner into the retaining cap (2) by matching up the pegs on the tools into the slots on the cap. Unscrew the bearing cap (2) anti clockwise. Leverage on the end of the peg spanner may be required initially to "crack the seal."
3. You now have access to the bearing mechanism. Release the tab (4) on the tab screw bent down into the locking nut (5) Using the tab spanner fitted to the slots, release the tab screw, note that the thread is left hand (**turn clockwise to release.**)
4. Fit the nut spanner H9 TRI 0197 into the slots on the locking nut (4) and release by turning anticlockwise. You may need to apply some force as the locking nut (4) is originally factory fitted using thread-locking compound.
5. With the locking nut (5) and the tab screw (4) fully removed from the assembly, you are now able to lift off the blade. You will need to rotate the blade whilst still applying a lifting action as you need to release the hydraulic pressure created by the residual grease.
6. With the blade detached from the hub, clean off all the excess grease. A paint brush works well with some solvent.
7. Remove the taper roller bearing (6) by pushing it out. The bearing may just drop out but the track may need some assistance by tapping it lightly with a screwdriver and mallet.
8. Discard the seal (8) by levering them out of the blade using a pair of pliers and a screwdriver.
9. Remove the thrust race (9), which comprises of the cage containing the balls and two tracks or races, one seated in the blade palm and the other in the hub face. Both will drop out once all the grease has been cleaned out.
10. Clean up the hub and blade tracks and remove any excess grease.
11. Repeat this procedure for all three blades.

Blade Assembly

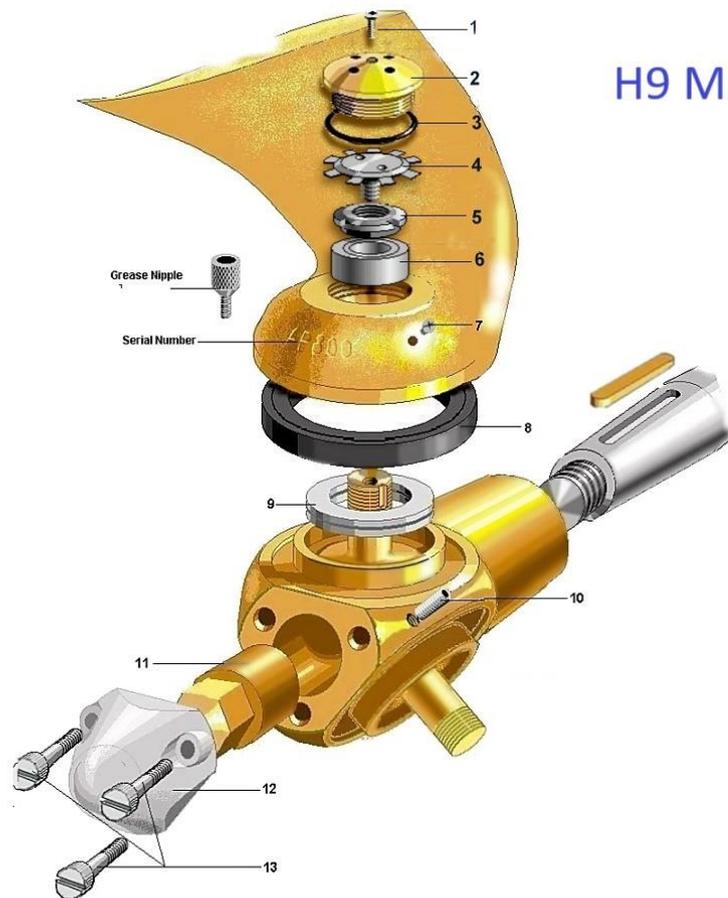
Lay out all component parts required for assembly and check against parts list. Make sure that they are all clean and that no foreign bodies fall into the assembly whilst fitting the new parts.

- 1 Clean the hub and blades thoroughly, ensure the grease holes (7) in the blades are clear. Ensure the base faces of the seal grooves in the hub are clean, this is the seal location face and must be thoroughly clean and damage free.
- 2 Fit the outer half of the taper roller bearing (6) into the blades; check it fits all the way to the bottom of the bearing bore and that the large end of the taper is facing upwards.
- 3 First start fitting the seal (8) by hand pressing into the blade, when you can't press it any further place the blade on the edge of your work bench with the seal facing upwards and lightly begin to tap the seal into the blade, using the mallet. Rotate the blade about the bore centre and continue tapping the seal until it is fully fitted into the blade. The seal should sit flush and there should not be any deviations to the lip (no wrinkles.) Discard the seal should any damage occur.
- 4 The thrust bearing (9) must now be fitted to the hub and blade. **You will notice the thrust washers have different inside diameters.** The washer with the largest inside diameter must be fitted to the hub and the smallest inside diameter fitted to the blade. At this stage, only work on one blade and one facet of the hub.
- 5 Locate the thrust ball race (9) onto the hubs thrust washer and fit the blade over the hub centrally. Locate the inner part of the taper roller bearing (6) over the hub-threaded post and into the outer track fitted earlier.
- 6 Ensure both nut and hub post is free from grease. Fit the nut using the thread-locking compound supplied. Ensure that the thread-locking compound does not enter the bearing. Tighten the locking nut (5) using a torque spanner fitted to the nut spanner. Set the torque spanner at **30.nm** and tighten until there is no rocking movement but the blade rotates freely. Spin the blade by hand to settle the bearings and repeat the torque and spinning procedure until the nut does not move, check again for rocking movement.
- 7 Screw the left-hand threaded tab screw (4) (anti-clockwise) into the centre of the hub post aligning the slot in the locking nut (5.) Please note thread locking compound starts to cure as you use it so complete the above procedure without delay.
- 8 Bend down the tab screw (4) into the slot on the locking nut (5)
- 9 Repeat this assembly procedure on the other two blades and double check the tab screw is bent into the nut slot.
- 10 Use the peg spanner to fit the caps into blades using thread-locking compound on the threads, ensuring the compound does not run into the bearings; tighten the cap down fully. Use some leverage on the peg spanner if necessary.
- 11 Fit the grease gun and nipple to the bearing cap (2) not the blade. Start pumping grease into the assembly rotating the blade at the same time to distribute the grease evenly. Pump until grease flows freely from the blade without any air bubbles.
- 12 Remove the grease nipple and fit the M5x6 screws (1) and (7) into the hub and blade. Repeat this operation with the two remaining blades.
- 13 The Autoprop is now assembled. All blades should rotate smoothly but with light resistance caused by the seal fit.
- 14 Ensure you use the correct grease or a direct equivalent, corrosion and waterproof grease, maker's name,(S.K.F.) type.(l.g.w.a.2)

Parts required for the H9 bearing kit

Position	Part No	Qty	Description
1&7	M5X6BUTHDSSA4	6	M5 x 6.0mm Button head Screw Stainless Steel A4
2	H9RBBC	3	H9 Roller Bearing - Bearing Cap
3	M42.86X03.53'O'RINGNITRILE70	3	42.86mm Inner Diameter x 3.53mm Section "O" Ring Nitrile 70 Shore
4	H9RBTS	3	H9 Roller Bearing Tab Screw
5	H9TSLN	3	H9 Tabscrew Locking Nut
6	BEARING32005X	3	Taper Roller Bearing 32005X
8	SEALFPM80X100X10(VITON)	3	H9 Viton Double Lip Seal
9	BEARINGS1110	3	Thrust Race Bearing 51110
10	Identified with AP serial No only	1	M10 shaft Nut locking Grub screw
11	Identified with AP serial No only	1	Shaft Nut
12	H9AN	1	H9 Zinc Anode
13	M10X25SKHDCPSSA4	3	M10 x 25.0mm Socket Head Cap Screw Stainless Steel A4

H9 Model Autoprop



Ensure the taper is correctly fitted. The small end diameter must face the hub post.