

INSTALLATION INSTRUCTIONS



Part Number: 162-8078

Part Name: Preference System Kit

Revision Date: October, 17 2017

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Approved By: Don Agent

Packaging Contents:

Qty.	Part Number	Description
1	162-8078	Preference System Kit

Parts and hardware:

- (1) 162-6078 - PREFERENCE ACTUATOR ARM
- (2) 153-2023 ¼-20 NUT
- (1) 153-2230 ¼ EYEBOLT
- (1) 153-2014 LOCKWASHER- ¼
- (2) 162-2020 - FLAT WASHER 5/8 X 1.75OD
- (1) 162-2021 - WASHER NYLON BLK 1.75 OD .
- (1) 162-2022 - SHOULDER SCREW 3/8 X 2 5/16-18 X 1/2
- (2) 162-2023 - WASHER-NYLON BLK 3/8 .75 OD .06 THK
- (1) 162-2032 - CENTERLOCK NUT 5/16-18
- (1) 162-2025 - SPRING-COMP .500 OD - 1.00 LONG
- (3) 153-2006 - FLAT WASHER - 3/8
- (1) 153-2055 - HHCS - 1/4-20 X 1-1/2
- (2) 153-2004 - FLAT WASHER - 1/4
- (1) 162-2026 - MAGNET
- (1) 162-2027 - LOCKNUT NYLOK 1/4-20 EXT WIDE/THIN
- (1) 162-2028 - SPACER NYLON 5/16 3/4 OD 1/2 LENGTH
- (1) 162-2029 - CAP FOR ROUND TUB-BLK .75 ID .50 DEPTH
- (1) 162-7000 - KEGEL KICKER MATERIAL
- (1) 162-2030 – ½-13 NYLON LOCK NUT

Recommended tools selection:

- 3/16" Allen wrench or socket
- Wrenches – 7/16", ½", 9/16" and ¾"
- Deep Sockets – 7/16", 1/2", ¾"

Preference System Kit explanation and installation instructions:

The Kegel Ball Preference Modification Kit was designed to alleviate the headaches associated with the Brunswick A-2 and Jet Back pinsetter ball preference system. We accomplished the goal of minimizing the problems caused by the factory design in a reasonably priced, easy to install, and low maintenance kit.

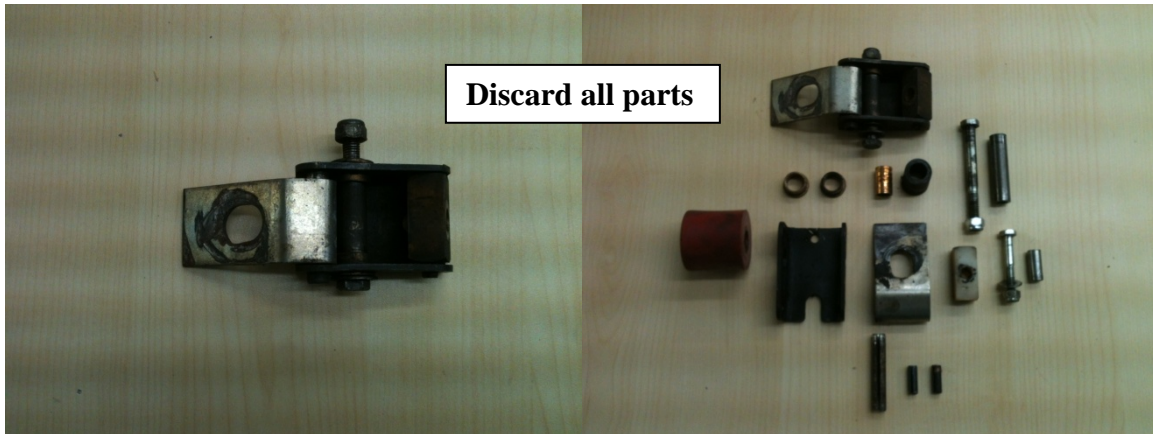
This kit eliminates 12 individual parts of the OEM assembly that when not kept regularly maintained and adjusted will eventually fail. Several of these parts including the metal pivot bracket, oil lite bearings, spring rod bumper, and urethane/rubber hook latch bumper require regular maintenance or have inherent metal on metal wear points. The simplicity of this design eliminates eventual breakdowns and the materials do not require the normal tedious maintenance and lubrication.

The UHMW preference actuator design brings durability and simplicity while also eliminating the OEM spring rod bumper. The angular entry hole for the spring rod and the preference rod allow for a range of adjustments that will accommodate a variety of lift rod conditions. The physical properties of our UHMW make this actuator a low maintenance and low wear portion of the kit.

Note: This kit can be installed by a qualified pinsetter mechanic in 20-30 minutes.

STEPS 1-13 BELOW WILL BE COMPLETED ON THE ODD LANE PINSETTER.

- 1) Remove power from both the left and right pinsetters on the pair of lanes that you are planning to install this kit on.
- 2) Remove the tension spring that connects the black colored preference trip bracket to the washer on the ball track. **Retain this spring.**
- 3) Remove the two ½" - 13 nuts, steel washer, and spring rod bumper from the spring rod. Allow the ball lift rod assembly to fall back gently and rest against the ball wheel. Save the ½" - 13 jam nut but discard the steel washer and spring rod bumper.
- 4) Loosen the bolt and nut on the steel collar located on the very end of the preference rod just behind the preference trip bracket. **Remove and set the collar aside. This collar will be reused in step 21.**
- 5) Remove the bolt and nut that fastens the preference system actuator assembly to the ball track support and remove the complete actuator assembly. Rest the preference rod on the pit curtain. The actuator assembly, including the spacer, bolt and nut can be discarded. No part of this assembly will be reused.

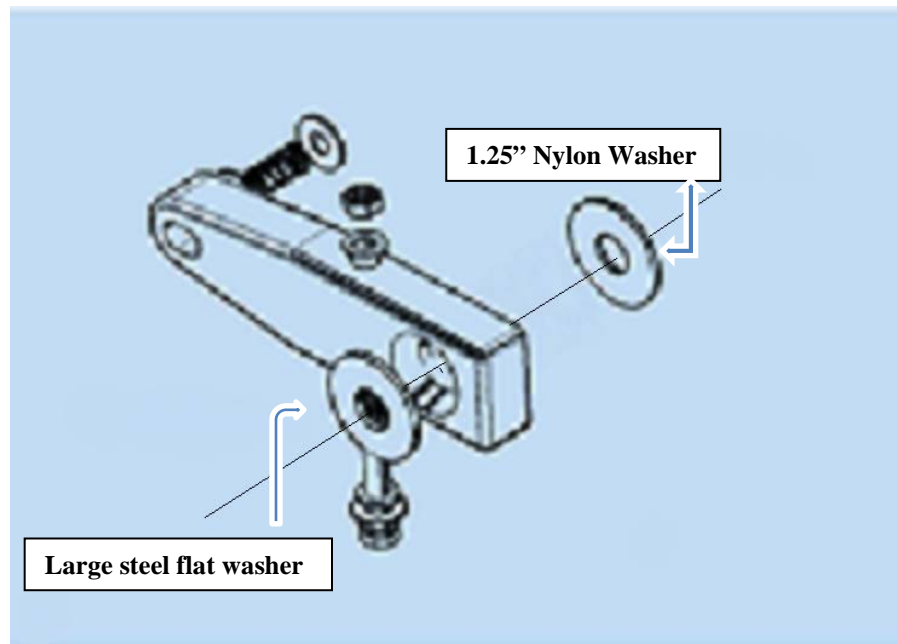


6) At this time, it would be a good idea to check the condition of the ball track support and replace if necessary. Take special note to the condition of the support where the silver/metal colored actuator bracket has been contacting the track support. Metal against metal wear has always been a problem in this area and will be eliminated with this kit.

7) Remove the new black UHMW actuator arm assembly that came with this kit. Locate the largest diameter hole bored into the arm. This is the hole that the spring rod will go through. One side of this hole is countersunk, this is the side that will face the ball track support. Insert the eye bolt into the $\frac{1}{4}$ inch hole in the corner of the actuator and secure with 2 each $\frac{1}{4}$ -20 nuts and 1 each $\frac{1}{4}$ inch lock washer. Tighten the nut and lock washer until the threads of the eye bolt are flush with the nut as shown in the photo.



8) While holding the new actuator arm with the countersunk end of the hole facing the ball track support, insert the preference rod that is resting on the pit curtain into the angled hole on the other end of the UHMW actuator arm. Using the supplied shoulder bolt, two 3/8 flat washers, two nylon flat washers and 5/16 centerlock nut, fasten the new actuator arm to the ball track support. The same mounting hole is used in the ball track support to fasten the new nylon arm. See picture below.



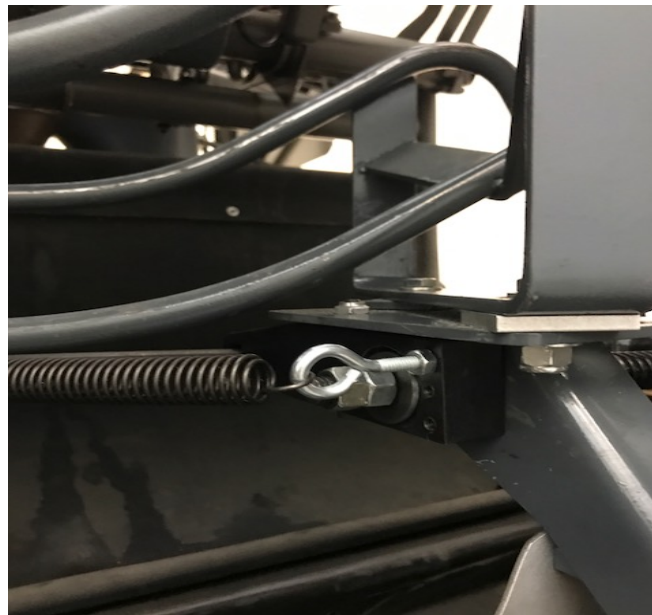
9) While referencing the picture above, locate the 1.25" nylon washer, large steel flat washer and 1/2" - 13 nylon locknut supplied in this kit and set these parts on top of the elevator frame by the clapper box ready for a quick retrieval.

10) Be sure the lift rod spring is still on the spring rod and that the spring rod bushing is inserted properly in the track support. With your left hand, push down on the 10 pin side of the lift rod assembly while guiding the spring rod into the bushing and the hole of the track support.

11) With Approx. 2" of the spring rod pushed through the ball track support, slip on the 1.25" nylon washer.

12) While pushing the UHMW actuator arm toward the ball track support with your right hand, continue to push down on the lift rod assembly with your left hand until the spring rod extends approx. 2" out of the UHMW actuator arm. Slip on the large steel flat washer followed by the ½" - 13 flanged locknut.

13) Using a wrench or deep socket tighten the ½ x 13 nylon locknut onto the treads of the spring rod until the proper adjustment of the ball lift rod is obtained. Please refer to your A-2 pinsetter service manual for the proper adjustment. After the proper adjustment is obtained, install the ½" - 13 jam nut that was removed in step #3 and tighten (jam) it against the flanged locknut. Replace the spring removed in step 2 through the eye bolt. As seen in the picture.



STEPS 14 - 19 WILL BE COMPLETED ON THE EVEN LANE PINSETTER:

14) Remove the tension spring that connects the Ball stop arm to the hook latch and set aside. **This spring will be re-used in step 19.**

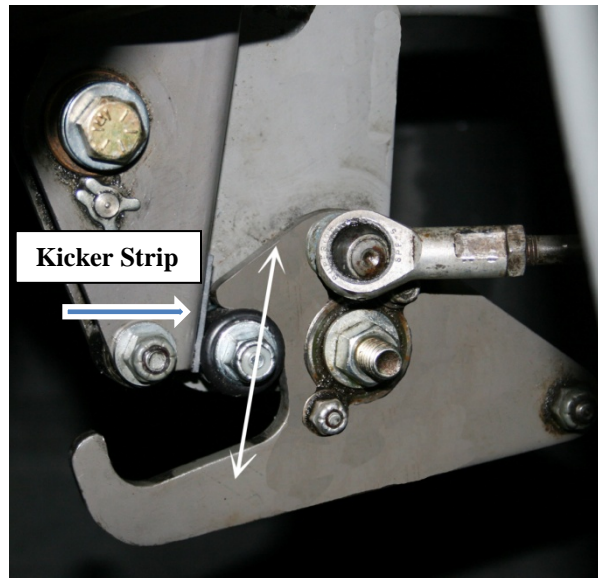
15) Remove the bolt and nut that fastens the urethane bumper assembly to the ball track. The entire bumper assembly can be discarded.

16) Locate the new bumper/magnet assembly, ¼" bolt, nut, and washer in this kit. Insert the ¼" bolt with the flat washer into the side of the bumper that is marked with 2 white lines.

17) Mount the bumper/magnet assembly through the same hole that was used for the original hook latch bumper. Thread the new locknut on to the bolt to where the bumper/magnet assembly is ALMOST tight but can still be rotated with some resistance.

18) The white lines marked on the black bumper mark the two poles of the magnet. Rotate the bumper/magnet so that the lines are at an approximate clock position of 6:30 and 12:30. Tighten the bolt

without disturbing the position of the bumper/magnet assembly. **MODERATELY TIGHTEN DO NOT USE EXTREME TORQUE.** See picture below for proper positioning of the bumper/magnet in relationship to the hook latch. Next place the small kicker strip on the front portion of the ball stop bracket that will be contacting the black rubber bumper and magnet. This strip is just to provide a little extra cushion between these 2 parts.



19) Install the tension spring that was removed in step #14. It is recommended to double check and verify the proper spring was being used to begin with.



STEPS 20 - 24 WILL BE COMPLETED ON THE ODD LANE PINSETTER:

20) Check the adjustment of the preference release lever. In the unlocked position the top surface of the trip lever should be horizontal with the ball track. This adjustment is the same as the factory adjustment and can be found in your A-2 pinsetter service manual. Using the turnbuckle that is attached to the preference rod, adjust the trip lever to obtain the correct adjustment.

21) Locate the small coil spring supplied in this kit along with the two 3/8" steel flat washers and the clamping collar that was removed in step #4.

22) In this order, assemble the following parts onto the end of the preference rod behind the UHMW actuator arm. One 3/8" flat washer, small coil spring, the other 3/8" flat washer and clamping collar. See picture below for proper placement of these parts.



23) With the ball lift rod assembly resting in its normal position. Push the clamping collar onto the shaft until the first washer, coil spring, second washer and clamping collar are contacting each other and the first washer is contacting the nylon actuator arm. However **DO NOT** push these parts together so much that the spring starts to compress. Back the clamping collar off the approx. 1/16 - 1/8" and tighten the bolt to clamp the collar to the rod.

24) Return power to both pinsetters and test for proper performance.

This completes the installation.