



Hazzard and Raze Service

Tools and Supplies

Nitrogen gas
2.5wt shock oil
1.5mm hex wrench
2.5mm hex wrench
3mm hex wrench
4mm hex wrench
24mm wrench
15mm socket
13mm socket
Torque wrench (140 in lbs / 15.8Nm max)
Vacuum damper bleed machine
IFP tools (TL317, 106097)
Bleed fitting (TL278)
Nitrogen valve tool (TL356)
Flat blade screwdriver
Red and blue thread locking agent
pick

Start by turning all adjustments counterclockwise to the fully open position and removing the spring if it is installed from the shock. Use a flat blade screwdriver to remove the dust cover from the reservoir can to expose the nitrogen fill port in the center of the reservoir cap. With the port exposed depress the Schrader core to release the nitrogen pressure.

With a set of soft jaws in your vice clamp the piggy back head eyelet into the vice with the reservoir facing up. With your 15mm socket unthread the reservoir cap from the shock canister. Inspect the OD oring on the cap and replace as needed. Inspect the Schrader core and replace as needed then set the cap aside.

Next use your 24mm wrench to unthread the damper shaft seal head from the main shock body. Once the threads are disengaged gently pull up on the shaft assembly to remove the damper shaft and be careful as some oil will spill. Remove the wear band from the main piston if the shock has a brown split band, some older versions had a one-piece band that does not need removed. Set the damper shaft assembly aside. Now remove the shock body from the vice and pour out the oil from the body into a container for proper disposal.

Re-clamp the shock body into your vice. Thread the Hazzard IFP tool (106097) into the IFP inside the canister until the threads are bottomed out. Pull up on the IFP tool to remove the IFP from the shock canister, this can take some force to get started but should slide out easily. With the IFP removed inspect the piston and wear band and replace the piston oring then set aside. Remove the shock body from the vice and drain the remaining shock oil into a proper container for disposal.

Take the damper shaft assembly and clamp the eyelet into your vice with soft jaws so the piston is facing straight up. With a 4mm hex insert it into the damper piston assembly, then firmly unthread the assembly counterclockwise. The assembly is held in place with thread locker and using a heat source may help loosen the thread locker. Unthread the piston assembly until it can be removed and set aside.

With the piston assembly removed, slide the damper shaft seal head off of the damper shaft. With the seal head removed inspect the bushing on the ID of the seal head. If the bushing is worn and needs replaced it is best to replace the seal head as a assembly. If the bushing is in good shape use a pick to remove the wiper seal and oring from the ID of the seal head making sure not to scratch the seal and oring grooves. Clean out the seal grooves with a rags and compressed air making sure there are no contaminates left in the grooves. Grease the new oring and install the oring on the ID of the seal head then install the new blue wiper seal with the protruding wiper lip facing towards the outboard portion of the seal head. Remove large oring from the seal head and the thin 1mm oring from the top of the threads on the seal head and replace as needed. Properly grease the OD and ID seals and orings of the seal head and set aside.

Remove and clean the bottom out bumper from the damper shaft. Inspect for damage from over use and replace as needed. Inspect the damper shaft for any wear or defects that may hinder the performance of the shock and replace if needed. Re-install cleaned bottom out bumper, then install the seal head with the wiper seal portion facing the bottom out bumper. As the seal head is installed it will leave some grease on the end of the damper shaft, be sure to clean this off so it does not get in the ID threads of the shaft. Take the piston assembly and clean the leftover thread locker from the threads so it does not contaminate the shim stack. Apply a drop of fresh red thread locker to the threads of the piston assembly and thread it into the end of the damper shaft. Using a 4mm hex on your torque wrench, tighten the piston assembly to 140in lbs (15.8Nm).

With the damper shaft assembly still in the vice, take your 13mm socket and remove the self-locking nut off of the piston assembly and discard. Remove the steel disc from the top of the shim stack and set aside. Carefully remove the top shim stack and lay it out in their size order on a clean towel so that you can inspect the shims for wear or damage. Next remove the damper piston and set aside. Now carefully remove the lower shim stack and lay out in their side order on a clean towel so you can inspect for wear or damage. Clean and inspect each shim in both the shim stacks for any cracks or fatigue that may hinder the performance of the shock and replace as necessary.

Begin putting the shim stack back on the steel shaft of the piston assembly in the same order they came off, so starting with the smallest and going to the largest for the bottom stack (compression). **NOTE: If you need a breakdown of the shim stack order, refer to the MRP shim stack list for the proper tune on the shock. If the tune is unknown contact MRP with the shock serial number to verify what shim stack was installed.** With the bottom shim stack (compression) installed, take the damper piston and install it on the shaft with the kidney bean shaped ports facing upwards and away from the compression shim stack. Next install the top shim stack (rebound) starting with the largest shim and going to the smallest. Then install the steel disc on top of the top shim stack with the smooth side facing the shims. With all the parts installed thread a new self-locking nut onto the piston assembly and using a 13mm socket torque the nut to 140in lbs(15.8Nm). With the damper piston assembly back together remove from the vice and set aside.

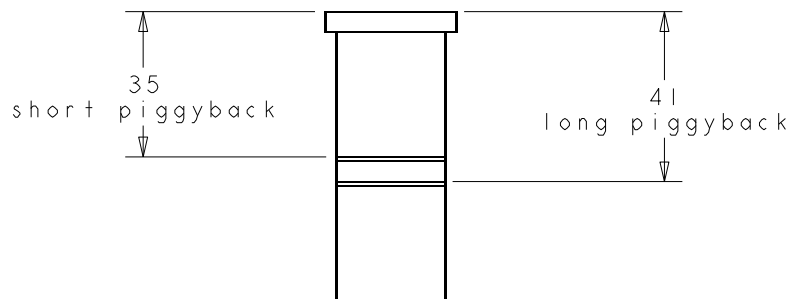
Take the shock body assembly and sand it up so the compression knobs can easily be removed. With a 1.5mm hex loosen the set screw in the side of the black low speed compression knob. Carefully remove the knob making sure not to lose the small detent balls. Remove the detent balls and springs and put in a small container so not to lose them. Next use the 1.5 hex to loosen the set screws on either side of the gray high-speed compression knob. Carefully remove the knob making sure not to lose the small detent balls. Remove the small detent balls and spring and put in a container onto to lose them. With the knobs removed clean the shock of any dirt and grease build up from under the knobs. Next clean and replace the oring dust seals on the compression knobs.

To reassemble the knob assembly first place a spring and detent ball in each of the holes on the shock piggyback. Next take the gray high-speed compression knob and align the set screws with the counter sinks on the brass hex protruding from the piggyback. Slide the knob into place and press down firmly on the knob and tighten the set screws so they are tight. Next put a spring and detent ball in each of the holes in the high-speed compression knob. Carefully install the black low-speed compression knob onto the steel peg protruding from the high-speed knob, no special orientation needed. Tighten the set screw until tight.

Clamp the eyelet of the main shock body into your vice with soft jaws so the body and piggyback are pointed upward. Next take the IFP and IFP wear band and install into the piggyback with a light amount of grease on the oring. The wear band may be difficult to get to slide past the threads so using the IFP tool (106097) you can push on the IFP while using a pick to gently tease the wear band into the canister. Push the IFP down until it bottoms out and lightly grease the ID of the canister. Leave the IFP tool installed and install the piston retainer tool (TL317) so the shock is ready for a damper bleed.

With the shock body still upright take the damper shaft assembly and lightly grease the OD oring on the seal head and place the wear band onto the piston if it has fallen off. Using your finger to hold the wear band ends together on the piston, insert the piston assembly into the main body of the shock. Next push the seal head down until the threads of the seal head touch the threads of the main body. Apply a small drop of blue thread locker onto the threads of the seal head. Tighten the seal head into place with a 24mm wrench until tight and the seal head is fully seated into the shock body.

With the shock assembled and ready for bleeding the damper remove the silver bleed port screw with a 2.5mm hex wrench from the shock body, between the compression knobs and the eyelet. Remove and replace the oring on the bleed port screw and set aside. Thread the Bleed Fitting (TL278) into the bleed port and attach to your vacuum bleed machine. Follow your bleed machines procedure for properly bleeding the damper and insuring there is no air in the damper. Finish the bleed procedure with the IFP tool (106097) at the proper depth for the piggy back canister length. Line 1 (closest to the IFP) is for the short canister found on most Hazzard shocks, line 2 (farthest from the IFP) is for the long canister found on all RAZE shocks and the longest eye to eye Hazzard shocks. Set the line so that it is even with the end of the retainer tool (TL317).



Now that the shock has been properly bleed, remove from the vacuum machine and clamp the rebound eyelet into your vice so the bleed port is facing straight up. Carefully unthread the Bleed Fitting from the shock body making sure not to allow any air bubbles to enter the bleed port. Slightly push on the IFP Tool so that oil fills the bleed port countersink and install the bleed port screw with a 2.5mm hex wrench. Tighten the bleed screw until snug.

Flip the shock in the vice so the canister is facing upwards. Unthread and remove the IFP Tools (TL317, 106097) from the IFP and canister and set aside. Thread the reservoir cap into the canister with a 15mm socket until tight. Thread the nitrogen valve tool (TL356) into the reservoir cap until snug. Using a Schrader chuck on a nitrogen tank, inflate the piggy back to 150psi. Swiftly unthread the nitrogen valve tool from the reservoir cap so not to lose any pressure in the piggy back. Install the nitrogen valve dust cover.

With the shock assembled, bleed, and nitrogen pressure set, cycle the shock making sure it is performing well and use a dyno if available. When cycling the shock be sure to close and open each adjustment individually to make sure they are all functioning well. Now install new eyelet bushings if need and the shock is ready to ride.