

A black and white photograph of an ATCX 442 locomotive, a large industrial engine used for heavy haulage. The locomotive is positioned on a set of railroad tracks. The number '442' is clearly visible on the front and side of the engine. The locomotive has a boxy, industrial design with various mechanical components, including wheels, axles, and a large front-mounted structure. The background shows a clear sky with some light clouds. A dark blue horizontal bar is overlaid across the middle of the image, containing the title and date. A solid yellow square is located on the right side of the image.

ATCX 442 Repair Update

6/29/2022

Bearing Boxes

- Journal boxes have been cleaned up and ground back to proper specifications.
- Primer paint has been used to reduce rust build up until paint is complete.
- Metal is on order to replace existing shim material with metal that will last in the high friction areas.
- Attached are the before and after pictures of work done so far.



2



Equalizers

- Equalizers were cleaned and wire brushed to remove old paint.
- All cracks were welded, and spring pads replaced.
- New shock absorbers will be installed upon reassembly.



Equalizer Adapters

- The equalizer adapters were worn down to the point that the dimensions no longer matched each other.
- The adapter plates were taken to a machine shop where material was built up and then machined down to the proper sizes.
- This repair will ensure that the journal boxes will all ride at the same proper height.
- New wear plates will be added to keep the adapters from being damaged in the future.



4



Center Bowl and Load Post



5

- The center bowl welds were broken around the top of the shim from a previous repair.
- The old weld was removed by a hand grinder and the shim was repaired.
- After reseating the new shim 7108 rod was used to weld the center bowl side shim back into place.
- The rest of the center bowl was cleaned, and all inclusions removed.



Center Bowl and Load Post

- The loading post felt brackets had been smashed during an old traction motor lift.
- New brackets could not be located so the old brackets had to be refurbished.
- The metal was heated and straitened, and new welds were made to reassemble the brackets.
- New felt will be applied before the truck is moved back under the locomotive.



Traction Motor Clean Up

- Traction Motors (TMs) #4 and #6 were cleaned and painted.
- The insides were vacuumed out removing all cobwebs, dirt, and oil.
- Emery cloth was used to clean the commutators by hand to remove the tarnish from the copper.
- All the inspection covers were cleaned and repaired as needed. New seals were applied to all the inspection covers.
- The dust covers, gear boxes, and TM support bearings were resealed with high temp, high oil resistant RTV.



7



Traction Motor #4 and #6 Clean Up

8



Pedestal Liners

9

- New pedestal liner shims have been welded in place on all 6 pedestal jaws.
- This corrects the problem of “cocked boxes” that could cause the journal boxes to bind in the frame.
- The welds were done using 7018 rod in the proper pattern prescribed by the maintenance manual.
- Each new pedestal liner was shimmed to ensure proper and exact clearance.



Rear Truck Repaired and Painted

- The rear truck was cleaned, and wire brushed down to fresh metal. This removed all rust and dirt that would contribute to corrosion in the future.
- The frozen brake rigging parts were dismantled, repaired, and greased to allow free and easy use and movement.
- The frozen brake adjusters were repaired and greased for ease of use.
- The trucks were primed and then painted a high gloss black.



10



Traction Motor #5 Replacement

- TM #5 was replaced with a rebuilt TM.
- Upon replacement, the dust covers and TM support bearing boxes were sealed with RTV high temp. and high oil resistance silicon.
- The gear box seals are also renewed.
- The new TM was then painted.



11



Remaining Work to be Completed

12

The next few slides detail the remaining work to complete the rear truck rebuild.

Weld Metal Shims onto Journal Boxes

- Each journal box requires a metal shim on each side.
- These are used as wear plates that ride on the inside of the pedestal liners.
- The metal is a high strength metal that is good for long term wear.



Install TM Combos Onto Rear Truck

- Use a forklift and boom truck to lift the truck and TM combos (TM and wheel/axle set).
- Reinstall TM combos back into the proper positions on the rear truck.
- Reinstall the equalizer adapters and equalizers.



14



Reinstall Rear Truck

- Lift locomotive and roll truck back under locomotive.
- Reattach all TM electrical cables.
- Reattach all air lines.
- Reattach side bearings and all fasteners.
- Reattach air cooling ducts to TMs.
- Reinstall rear pilot sheet, or fabricate new pilot sheet if required.
- Test operation of rear truck.

ATCX 442 Repair Update 6/29/2022



15



END

16



ATCX 442 Repair Update 6/29/2022