

INSTRUCTIONS FOR PRIVATE CAR INSPECTION
200,000 THROUGH 500,000 MILES AFTER 40 YEARS
AMTRAK INSPECTION FOR COMPLIANCE OF MAP PC2A

1. Jack car and remove and replace trucks. Do not disassemble trucks unless necessary to repair defects found.
2. Inspect truck bolsters, body bolsters, bolster center plates and top center plates for worn conditions, cracks or broken. If any defects are noted, they must be repaired to comply with instructions and requirements of SMP 46617 and SMP 48001.
3. Inspect swing hangers, crossbars and pins for worn conditions, cracks, or broken. If any defects are found, they must be repaired to comply with instructions and requirements of Amtrak SMP 46605 including heat treating, Brinell testing, Magna-Flux or Dye Checking. Renew swing hanger bushings worn 10% of new. Renew swing hanger pins worn 10% of new.
4. Inspect equalizer bars for worn conditions, cracks, broken or gouged. If any defects are found, they must be repaired to comply with instructions and requirements of Amtrak SMP 46617 and SMP 46603 including heat treating and Brinell testing.
5. Inspect equalizer springs and equalizer spring seats for worn conditions, cracks or broken. Broken or cracked equalizer springs must be renewed. Equalizer spring seats must be repaired to comply with instructions and requirements of SMP 46617 and SMP 49602.
6. Inspect truck frame for worn conditions, cracks or broken. If any defects are noted, they must comply with instructions and requirements of SMP 46617 and SMP 48001. Truck frame bushings must be renewed when worn 10% of new.
7. Inspect pedestal liners for cracks in the parent metal or in welds holding liners to track frame. Maximum allowable clearance is 1/4" between the pedestal liners and journal housing. The total allowable lateral per wheel set with Hyatt boxes in a minimum of 3/8" and a maximum of 5/8". This includes the Lug Liner Clearance and the Thrust Block Clearance. The lateral clearance total per wheel set between thrust lugs of journal housing and pedestal liners using 3/8" Lug Liners is a minimum of 3/8" and a maximum of 5/8". The lateral clearances total per wheel set between thrust lugs of journal housing and pedestal liners using 7/16" lug liners is a minimum of 1/4" and a maximum of 9/16". The center wheel of a 6-wheel truck must have a minimum lateral clearance of 5/8" and a maximum lateral clearance of 7/8". If liners are cracked or worn they must be renewed. To determine if wear is in pedestal liner or journal box liner, the measurements must be made before removal of wheels. All cracked welds must be properly repaired to ensure proper securement.

8. Inspect anchor bars, anchor bar bolts and rubber bushings. Cracked or broken anchor bars must be renewed, anchor bar bolts with pulled or worn threads must be renewed and anchor bar rubber bushing worn or aged cracked must be renewed.
9. Inspect wheels and axles in accordance with applicable AAR Manual, Standards and Recommended Practices (Section G, Part II). In addition, any wheel with height of 1 1/4" or more must be restored to full contour, any wheel with flange thickness of 1" or less must be must be restored to full contour and any wheel with 1/16" or less above passenger scrap must be renewed.

Roller bearing and boxes:

Remove face plate (where applicable) journal end cap and inspect boxes for any discoloration of grease or oil or any visible bearing problems. Reapply journal end caps and torque bolts to proper foot pounds as recommended in Section H, Part II, Roller Bearing Manual (H-II-81). In addition, bolts must be secured with triangular locking plate. Apply roller bearing box face plate (where applicable) and secure bolts with wire. Grease or oil boxes as recommended in Section A, Part III, Passenger Car Requirements, Section 4.0 of A-III-263.

Hyatt roller bearing boxes:

The lateral must be adjusted according to the instruction of Hyatt Roller Bearing Railroad Journal Boxes.

10. Inspect all brake rigging, pins, levers, bushings and component parts for cracks, broken or worn conditions.

Clasp brake:

- (A) Renew all brake pins when worn 10% of new.
- (B) Renew all bushings when worn 10% of new.
- (C) All tread brake shoe heads must be capable of fully holding brake shoe with no side play nor overlap of rim of wheel.

Disc Brake Type:

- (A) Inspect all brake tongs, shoe heads, bolts and component parts for cracked, broken, or worn conditions. Remove all shoe heads and inspect shoe head pins for cracks. Cracked shoe head pins must be renewed. Inspect show head retaining buttons to ensure they are tight and of full contour. Worn or loose buttons must be renewed. All bolts must have retaining plates or wire.

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- (B) When equipped with C frames, worn or torn rubber bushings must be renewed.
 - (C) Inspect rubber donut segments - renew if worn.
 - (D) All C frames must have safety chains of a minimum of 1/4" through hanger box assembly connecting to truck frame transom.
11. Inspect and gauge couplers and operating rods.
- (A) Tightlock H or T type coupler must meet AAR Manual of Standards and Recommended Practices (Section A, Part III, Specification M 206B-80).
 - (B) Tightlock F type coupler must meet AAR Manual of Standards and Recommended Practices (Section A, Part III, Specification M 209B-74).
 - (C) Controlled slack type coupler must meet maintenance recommendation of American Steel Foundry Report No. 509A, revised June 19, 1960 and AAR Alternative Standard S-026.
12. Inspect draft gear for excessive slack. Must meet AAR requirement for type of coupler:
- (A) H Type 1/2"
 - (B) F Type 1"
 - (C) Controlled Slack 1"
 - (D) T Type 1"
13. Thoroughly inspect area around draft gear for cracks, loose, or worn parts. If any cracks are located, they must be welded and reinforced.
14. Inspect battery boxes, air condition units, electrical breaker boxes, equipment boxes and all other boxes attached to car. Inspect for loose or broken bolts or rivets. Boxes with cracks or broken areas must be repaired and reinforced. All box support straps, cracked or broken must be completely renewed. Loose or broken bolts and rivets must be renewed. They must be renewed with high strength bolts and elastic stop nuts. The tensile strength of the bolts and nuts must be grade 5 or better.
15. Inspect all areas where the boxes are attached for cracks, worn holes, and fatigued metal. Any of the above conditions found must be reinforced.

16. Inspect axle generators, axle generator supports and securing devices for cracks, fatigued metal, and worn holes. If any of the above conditions are found, they must be reinforced to meet Amtrak Engineering specifications. Loose or broken bolts or rivets must be renewed. They must be renewed with high strength bolts and elastic stop nuts. The tensile strength of the bolts and nuts must be grade 5 or better.
 - (A) Belt driven generators must have axle pulley inspected for cracks, proper mounting and secured with proper bolts. All cracked pulleys must be renewed. Inspect all belts for loose, worn and damage. Replace as required.
 - (B) Generators with spicer drive, clutch and drive shaft must be inspected for worn companion flanges, loose and worn drive shafts. If any of the above conditions are found, they must be renewed. Drive shaft must have safety hangers and have safety hangers in good condition. Note: If spicer not used, must be removed.
 - (C) Inspect torque arm for excessive play. If any play exists, the torque arm bushings must be renewed (there must be no slack).
 - (D) Spicer drive must have safety arm.
 - (E) Check spicer drive for proper oil level and lubricate universal joints on drive shaft.
17. Inspect cables, wiring and conduit of cars with 480 power and 27-point train line systems. Wires and cables with cuts or abrasions, any conduit broken, loose or cracked must be repaired to meet Amtrak engineering specifications.
18. Inspect marker lights for proper operation. All lights must have the capabilities of burning 2 hours from back-up power.
19. Inspect and test with soap suds all air lines and main reservoir lines for leaks. All loose pipes must be tightened and all cracked and broken pipes must be renewed. Inspect all air hoses and main reservoir hoses for defects.
20. Single car: test cars for proper brake operation and proper piston travel. Must pass single car test according to AAR Specification Instruction Pamphlet No. 5039-4. Piston travel body mounted cylinders 7". Truck mounted cylinders 5".

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21. Inspect, test and stencil handbrake for proper operation. Handbrake must apply and release properly and work in conjunction with the airbrake. Handbrake must be located so it can safely be operated while car is in motion. Lubricate all sheave wheel pins.
22. Inspect all hand holds for proper clearance, application and worn conditions. Hand holds must be constructed of minimum 5/8" diameter, must be tight, free of breaks and cracks and a minimum "clearance of 2". Cracked or broken hand hold must be renewed and comply with FRA Requirements.
23. Inspect all trap door catches for proper securement. Must not be loose and heavy-weight type must be secured with tapped bolts of not less than 1/4". Trap door must raise enough to clear locking device when opening to ensure sufficient clearance to avoid personal injury to hands.
24. Inspect all entrance steps for proper securement and conditions of step treads and risers. They must not be loose, cracked or broken. All loose steps must be secured with high strength bolts and elastic stop nuts or welded. Heavy-weight type risers broken or cracked must be renewed with a minimum 1/4", wrought iron or steel. Step treads must have a nonskid tread.