SMP NO.:	28605
ISSUE DATE:	January 24, 2003
REVISION DATE:	October 24, 2003
TITLE:	Repair Track Inspection Procedure

EQUIPMENT TYPE					
X	All Passenger Trains				
Locomotives		Cars			
X	All Locomotives	X	All Cars	X	All Types
	Acela HST Power Car		Acela		Baggage
	AEM-7		Amfleet I		Cafe
	Cab Car: (Under Cars)		Amfleet II		Coach
	Car Movers		Auto Carrier		Diner
	Commuter		Commuter		Dinette
	F59PHI		Freight		Lounge
	GP40PH		Heritage HEP		Sleeper
	HHP8		Horizon		Other:
	MP15		Material Handling Cars		
	Non Powered Control Units		Private Cars		
	P32-8		Roadrailers		
	P32AC-DM		Superliner I		
	P-40		Superliner II		
	P-42		Talgo		
	SW1001		Turboliner		
	SW1200		Viewliner		
	SW1500		Other:		
	Turboliner				
	Talgo				
	Other:				

MAINTENANCE TYPE	
	L – Locomotive C – Cars
	All Maintenance – L/C
L/C	Daily – L/C
	30 Day – C
	60 Day – C
	90 Day – C
	92 Day – L
	180 Day – C
	184 Day – L
	360 Day – L/C
	720 Day – L
	COT&S – C
L/C	Initial Terminal – L/C
L/C	Intermediate Terminal – L/C
	Modification – L/C
	Overhaul – L/C
	Running Repair – L/C
	Seasonal – C
	Wheels – L/C
	Facility
	Other :

1.0 PURPOSE

To provide instruction for inspection and repair on shopped out of service cars or locomotives due to a defect.

2.0 SCOPE

The following procedure covers all necessary areas of equipment that must be inspected before it is released into service. **This procedure must be completed by trained QP and QMP personnel as per 49-CFR 238.109**.

3.0 DEFINITION OF REPAIR/RIP TRACK

The area where a car or locomotive is sent when removed from service, out of a consist, and will not be able to make its next regular assigned train.

4.0 HISTORY

Check 12 months history of equipment performance for past problems and or repairs in WMS and facility records.

5.0 SAFETY PRECAUTIONS

5.1 Prior to starting work on equipment ensure all Code of Federal Regulations (Title 49, Chapter II, Part 218) and Amtrak's Blue Signal Protections are followed.

5.2 Wear approved PPE (Personal Protective Equipment).

5.3 When blowing with compressed air, personal injury may result if proper eye protection is not worn. To prevent personal injury when using compressed air, observe all Amtrak and Government regulations. Shop air must be 30 p.s.i. or less.

6.0 EXTERIOR INSPECTION

6.1 A car that has any of the following defects cannot continue in service until repairs are completed.

6.2 **Inspect Wheels** (Repair or Replace as necessary)

6.2.1 Flange thickness must not be 1-3/64" (5 on 0) or less.

6.2.2 Flat spots must not be 3/4" or more in length.

6.2.3 Shelling/Spalling must not be 3/4" (1-1/4" Transport Canada) or more in length.

6.2.4 Flange height must not be 1-1/4" or more.

6.2.5 Rim thickness must not be 1-1/4" or less.

6.2.6 Wheel must not have any cracks or breaks.

6.2.7 A chip or gouge in the flange must not be 3/4" or more in length and 1/2" or more in width.

6.2.8 Wheel set must not have a scrape, dent, gouge, built-up tread, or grooved tread 1/8" or more in depth.

6.2.9 Axle must not be cracked, broken, or bent.

6.2.10 Wheels must not have evidence of overheating or discoloration on front and back face of the plate that extends 4" into the plate.

6.2.11 Seam (grooved tread) running lengthwise must be within 3-3/4" of the flange (FRA) and 1/8" or more in depth.

6.2.12 No welds are permitted.

6.2.13 Remove, clean, inspect, and check continuity of speed sensors (800 – 1200 Ohms); reapply sensor and gap to .032” using feeler gage (AAMPS # 45-946-59625).

6.2.14 Perform Wheel Slip System Inspection as per MAP 120WS-A, B, C, & E (ref. TM-159-1, 2, & 4) per type of equipment.

6.3 Wheel Standards Chart

Type of Defect	Standard For A New Wheel	PM Back Shop Finger Gage	PM Line Location Finger Gage	Defect Repair Point Finger Gage	Initial Terminal Combined Wheel Gage	Intermediate (1500 mile) Combined Wheel Gage**	AAR (Ref)	FRA Standard
Gage Number	W601-4A	W601-4A	W601-4A	W601-4A	W620-4	W620-3		W601-4A
Gage AMMPS Number	45-795-73403	45-795-73403	45-795-73403	45-795-73403	45-795-06204	45-795-06203		45-795-73403
Flange Thickness								
finger*	0 on 0	5 on 0	5 on 0	5 on 0	N.A.	N.A.		N.A.
fraction	1-17/64"	1-3/64"	1-3/64"	1-3/64"	1"	15/16"		7/8"
decimal	1.265"	1.070"	1.070"	1.070"	N.A.	N.A.		0.875"
Flange Height								
finger*	0 on 0	0 on 20	0 on 20	0 on 20	N.A.	N.A.		N.A.
fraction	1"	1-1/4"	1-1/4"	1-1/4"	1-3/8"	1-7/16"		1-1/2"
decimal	1.000"	1.250"	1.250"	1.250"	1.375"	1.437"		1.500"
Rim Thickness								
fraction	2-3/4"	1-1/4"	1-1/4"	1-1/4"	1-1/16"	1"		1"
decimal	2.750"	1.250"	1.250"	1.250"	1.062"	1.000"		1.000"
Flat Spot								
fraction	N.A.	3/4"	3/4"	3/4"	1-1/2"	1-1/2"		2-1/2"
decimal	0	0.750"	0.750"	0.750"	1.500"	1.500"		2.500"
Out of Round								
tir	0.030				N.A.	N.A.	0.070	

* Finger readings are only provided as a reference.

**** At the following locations: Albuquerque, Tucson, Denver, Minot, New Orleans, and San Antonio; Maintenance Alert (MA-02-20U) requires end point notification that wheel must be changed or trued.**

6.4 **Inspect Roller Bearings** (Ref. SMP 46618) (Repair or Replace as necessary)

6.4.1 Roller Bearings must not show signs of excessive **fresh** grease leakage.

6.4.2 Bearing end cap and screws must not be loose, cracked, broken, or missing.

6.4.3 Bearing cap screw locking plate must not be broken, missing, or improperly applied.

6.4.4 Grease seals (grease seal/backing ring) must not be loose, cracked, misaligned, or damaged.

6.4.5 Bearing adapters must be in proper position for service.

6.4.6 Bearings must not have signs of having been overheated.

6.5 **Inspect Trucks** (Repair or Replace as necessary)

6.5.1 Shoes/Pads must not be loose, missing key, or improperly aligned with braking surfaces.

6.5.2 Shoes must not be worn to a thickness of 3/4" or less.

6.5.3 Pads must not be worn to a thickness of 1/2" or less.

6.5.4 Levers, rods, brake beams, or hangers must be properly secured and not worn more than 30%.

6.5.5 Equalizers must not be cracked, broken, or rubbing truck frame.

6.5.6 Pedestal liners, tie straps, tie bars, and retainers must not be loose, broken, or missing.

6.5.7 Ensure shock absorbers are not broken, leaking, and are properly secured.

6.5.8 Superliner I leaf guiders and bushings must be properly secured, not bent, cracked, or broken.

6.5.9 Bolster anchor/radius rod must not be loose or missing.

6.5.10 Side bearing assemblies must have proper clearance.

6.5.11 Outer coil spring or saddle (equalizer seat) must not be broken.

6.5.12 Truck safety hangers must not be missing, cracked, or broken.

6.5.13 Ensure Coil spring is not fully compressed.

6.5.14 Hangers, bolt, gibs, or pins must not be cracked or broken.

6.5.15 Each air bag must inflate and deflate correctly, as applicable, and otherwise operate as intended.

6.5.16 Truck frame must not be broken or cracked in a stress area.

6.5.17 Friction side bearings must not run in contact unless designed to do so.

6.5.18 Friction side bearings with springs designed to carry weight must not have more than 25% of the springs in any one nest broken. (Private Cars)

6.5.19 Maximum side bearing clearance of each side bearing does not exceed manufacturers recommendation.

6.6 Inspect Couplers (Repair or Replace as necessary)

6.6.1 Coupler head and shank must not have cracks, breaks, or be bent.

6.6.2 Uncoupling levers must not be bent or broken and must be free of obstruction.

6.6.3 Uncoupling lever must be secured in down (locked) position with knuckle locked.

6.6.4 Any coupler component must not be cracked or broken.

6.6.5 Telltale recess or telltale hole must be fully visible with knuckle fully locked.

6.6.6 Coupler knuckle and coupler shank pin retaining key must not be missing, cracked, broken, or worn more than 25%.

6.6.7 Lock lift assembly must have proper rod eye clearance with coupler locked and centered.

6.6.8 Ensure the coupler carrier is not broken or cracked.

6.6.9 Ensure the yoke is not broken or cracked.

6.7 Inspect Electrical (Repair or Replace as necessary)

6.7.1 Emergency lights must be operative.

6.7.2 Rear Marker/EOT must be operative.

6.7.3 480 volt cables and cable connections are located and guarded in a manner that provides sufficient vertical clearance.

6.7.4 Where equipped, hot journal and wheel slide detection systems must be operative.

6.7.5 Ensure each battery container is vented and each battery is kept from gassing excessively.

6.7.6 480 volt cables and cable connections may not hang with one end free.

6.7.7 480 volt cable insulation must not be broken, badly chafed, and no strands of wire are broken or protruding.

6.7.8 No plug, receptacle, or terminal is broken.

6.7.9 480 volt system must not be short looped (Ref. SMP26001).

6.8 Inspect Carbody (Repair or Replace as necessary)

6.8.1 No safety appliances may be cracked, bent, broken, or missing.

6.8.2 Handhold minimum clearance must not be less than 2" preferably 2-1/2".

6.8.3 Emergency exit identifications must not be missing. Operating handles must not be broken or improperly installed.

6.8.4 Safety equipment must not be missing.

6.8.5 Fire extinguishers must not be out of date or discharged.

6.8.6 Trap door catch must not be missing or inoperative.

6.8.7 RoadRailer locking pins must not be misaligned or improperly secured.

6.8.8 Diaphragm must be in place, properly aligned and must not have unsafe high/low condition.

6.8.9 All parts or appliances of a passenger coach, except the wheels, must be more than 2-1/2" above the top of the rail.

6.8.10 All doors and cover plates guarding high voltage equipment must be marked Danger High Voltage.

6.8.11 All buffer plates must be in place.

6.9 Inspect Brake System (Repair or Replace as necessary)

6.9.1 Brake disc must not have a crack over 3" in length or within 1/2" from edge of disc or hub (ref. SMP 03610 and MAlert 03-03 for Maintenance Instruction on Brake Discs).

6.9.2 Graduate/Direct release cap must be properly positioned for service.

6.9.3 Slack adjusters must be operational.

6.9.4 Inspect air brake hoses for damage.

6.9.5 Perform Single Car Air Brake Test as required.

7.0 INTERIOR INSPECTION

7.1 A car that has any of the following defects cannot continue in service until repairs are completed.

7.2 **Inspect and Ensure that:** (Repair or Replace as necessary)

7.2.1 Fan openings, exposed gears and pinions, exposed moving parts of mechanisms, pipes carrying hot gases, high voltage equipment, circuit breakers, contactors, relays, grid resistors, and fuses are installed in non-hazardous locations or equipped with guards to prevent personal injury.

7.2.2 Floors of passageways and compartments are free from oil, water, waste, or any obstruction that creates a slipping, tripping, or fire hazard, and floors are properly treated to provide secure footing.

7.2.3 The words “Emergency Brake Valve” are legibly stenciled or marked near each brake pipe valve or shown on an adjacent badge plate.

7.2.4 Doors and cover plates guarding high voltage equipment are marked “Danger/High Voltage” or with the word “Danger” and the normal voltage carried by the parts so protected.

7.2.5 All “D” rings, pull handles, or other means to access manual door releases are in place based on visual inspection.

7.2.6 Emergency equipment such as fire extinguisher, pry bar, auxiliary portable lighting, and first aid kits, as applicable, are in place. Fire extinguisher is in date and not discharged.

7.2.7 Safety signage in place and legible.

7.2.8 Trap doors safely operate and securely latch in place in both the up and down position. (A non-complying car may continue in service if the trap door can be secured by locking out the door for which it is used).

7.2.9 All vestibule steps are illuminated (A non-complying car may continue in service if the car will be used solely in high-platform service).

7.2.10 All end doors and side doors operate safely and as intended (A non-complying car may continue in service if at least one operative and accessible door is available on each side of the car; and a notice is prominently displayed directly on the defective door indicating that the door is defective.

8.0 RECORD KEEPING

Document repairs to the equipment in WMS (Work Management System) and all appropriate MAP forms.

NOTE: Supervisors are required to monitor inspection personnel to insure compliance with these standards.