

Amtrak Equipment Maintenance Department  
Standard Maintenance Procedure

**SMP NO.:** 49602

**ISSUE DATE:** March 15, 1981

**REVISION DATE:** February 11, 2004

**TITLE:** Repair and Reinforcement of Equalizer Spring Seats

EQUIPMENT TYPE			
All Passenger Trains			
Locomotives		Cars	
All Locomotives		All Cars	X All Types
Acela HST Power Car		Acela	Baggage
AEM-7		Amfleet I	Cafe
X Cab Car: (Under Cars)		Amfleet II	Coach
Car Movers	X	Auto Carrier	Diner
Commuter	X	Commuter	Dinette
E-60MA (HEP)		Freight	Lounge
F40PH	X	Heritage HEP	Sleeper
F59PHI	X	Horizon	Other:
GP40PH	X	Material Handling Cars	
HHP8	X	Private Cars	
MP15		Roadrailleurs	
Non Powered Control Units	X	Superliner I	
P32-8	X	Superliner II	
P32AC-DM	X	Surfliner	
P-40		Talgo	
P-42		Turboliner	
SW1001	X	Viewliner	
SW1200		Other:	
SW1500			
Turboliner			
Talgo			
Other:			

MAINTENANCE TYPE	
	L – Locomotive
	C – Cars
	All Maintenance – 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
	Initial Terminal – L/C
	Intermediate Terminal – L/C
	Modification – L/C
<b>C</b>	Overhaul – L/C
<b>C</b>	Running Repair – L/C
	Seasonal – C
	Wheels – L/C
	Facility
	Other:

### 1.0 PURPOSE

This SMP outlines the procedure to be followed for the Repair and Reinforcement of Equalizer Spring Seats.

### 2.0 SCOPE

This SMP will establish a standard for ordering and illustrate a method of repair and reinforcement for equalizer spring seats.

### 3.0 HISTORY

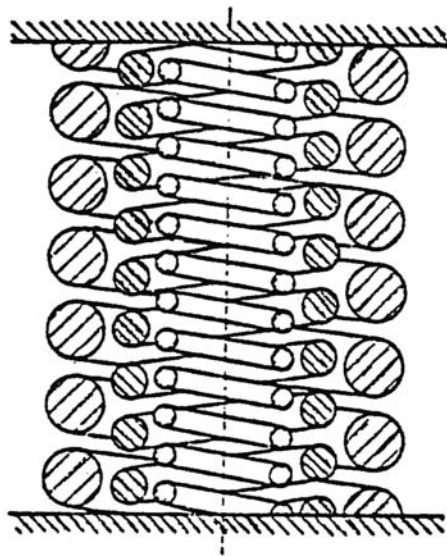
Check 12 months history of equipment for past spring and equalizer spring seat problems and or repairs in WMS and facility records.

#### 4.0 SAFETY PRECAUTIONS

- 4.1 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.
- 4.2 Wear approved PPE (Personal Protective Equipment).

#### 5.0 ORDERING NESTED SPRINGS

- 5.1 When either a two-spring or a three-spring nest is ordered; it shall be specified to the spring manufacturer that adjacent springs in the nest must be coiled in the opposite direction 148 degrees. This arrangement is designed to prevent interlocking of multiple nested coils.
- 5.2 Any spring nests found not to be in accordance with section 5.1 above shall be replaced with springs having coil winding of successive springs in alternate directions.
- 5.3 When spring manufacturers are notified that adjacent springs in a nest must be coiled in opposite directions, it must also be specified that the first outer coil shall be right-hand wound, second inner coil left-hand wound, and the third inner coil right-hand wound, etc. This will establish a standard for Amtrak on nested coil springs that are received from different manufacturers.



Cross-section view of nested coil spring

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**6.0 REQUIRED PARTS AND TOOLS**

Description	AAMPS #
Heavy Duty Grinder	N/A
Gloves, Leather	46-105-35940 (sm) 46-105-35959 (med) 46-105-35976 (lg)
Hardhat	46-728-00658
Safety Goggles (full)	46-105-46105 46-105-46106
Welding Gloves	46-105-35158 (sm) 46-105-35166 (med) 46-105-35174 (lg)
Welding Jacket	46-588-00707 (sm) 46-588-00600 (med) 46-588-00504 (lg) 46-045-03600 (x-lg) 46-045-03601 (xx-lg)
Welding Helmet 2" x 4.25"	46-120-06954
Welding Helmet 4"	46-120-06858
Electrode, Arc Weld, AWS E 7016	28-075-00806

**7.0 REPAIR AND REINFORCEMENT OF EQUALIZER SPRING SEATS**

- 7.1** Repair of broken equalizer spring seats shall be as per General Steel Industries Drawing SK-G-6009 (Figure 1) attached.
- 7.2** Grind spring seat area as shown (Figure 1, Detail "A") flush for equalizer and for reinforcement rib.
- 7.3** Spring seat should fit flat on equalizer at assembly.
- 7.4** Install reinforcement rib (Figure 1, Detail "B") and weld as shown (Figure 1, Detail "A" & "B") using electrode AWS E 7016.
- 7.5** The drawing (Figure 1) illustrates the method of repair and reinforcement for the equalizer spring seats of type shown.

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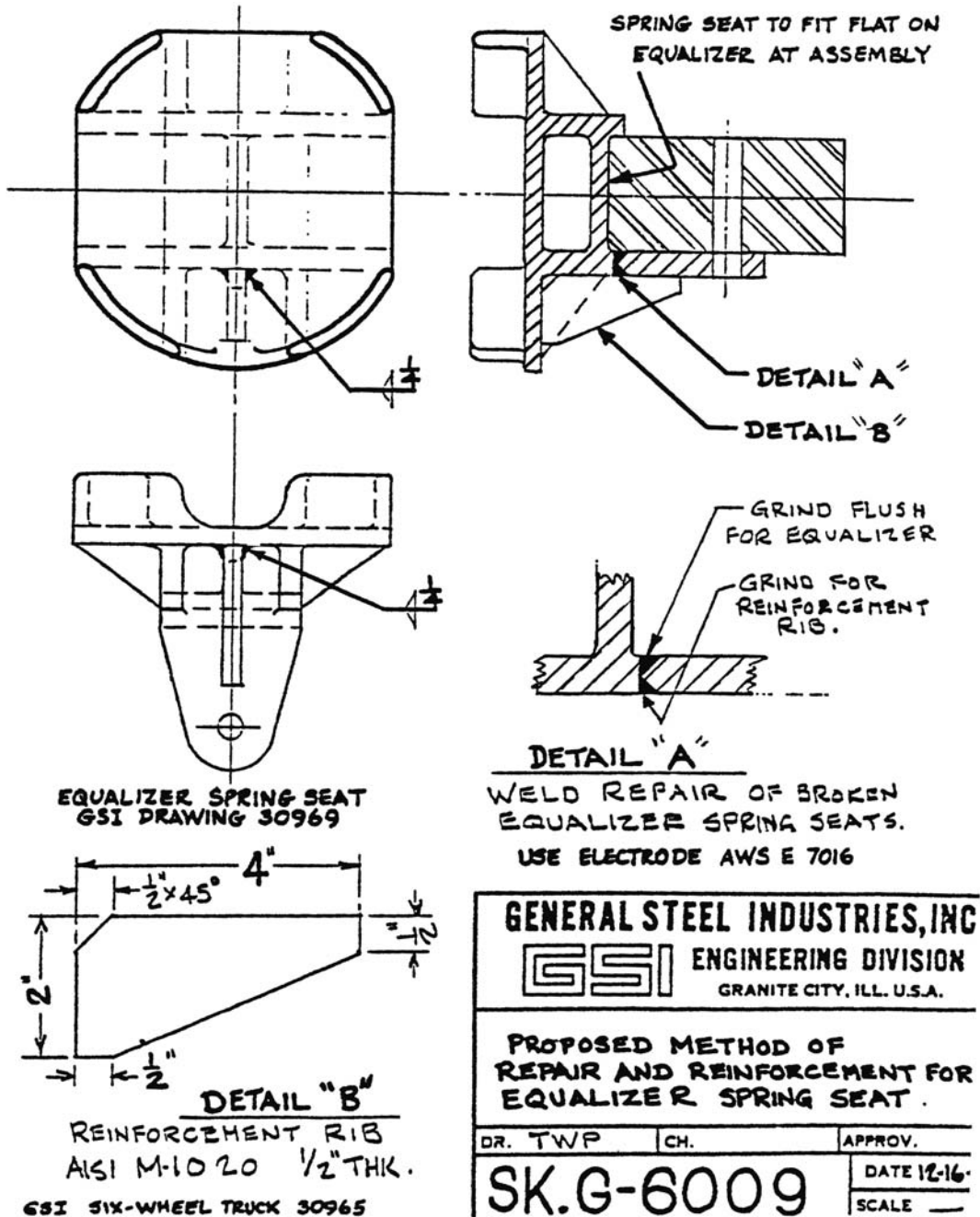


FIGURE 1

8 RECORD KEEPING

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