

THE PENNSYLVANIA RAILROAD

FREIGHT CAR MAINTENANCE INSTRUCTIONS

ISSUED PHILADELPHIA, PA.,

APRIL 15, 1952.

METHOD OF ISSUING INSTRUCTIONS COVERING FREIGHT CAR REPAIRS.

THERE HAVE BEEN ISSUED OVER A PERIOD OF SEVERAL YEARS, FREIGHT CAR REPAIR INSTRUCTIONS, IN PRINTED FORM ON 8" X 10-1/2" SHEETS, ALL PRINTING AND SKETCHING BEING BLACK. IN SOME CASES THESE INSTRUCTIONS HAVE BEEN REPRODUCED BY THE MIMEOGRAPH OR BLUE PRINT PROCESS.

A NEW SERIES OF FREIGHT CAR MAINTENANCE INSTRUCTIONS IS BEING PREPARED AND WILL BE PRINTED ON 8-1/2" X 11", 20 LB. PAPER, THE TYPING AND SKETCHING BEING REPRODUCED WITH A COLOR PRINTING PROCESS. THESE INSTRUCTIONS WILL BE ISSUED CURRENTLY AS THEY ARE COMPLETED AND WILL BE NUMBERED IN THE "F" SERIES SIMILAR TO THE PRESENT INSTRUCTIONS.

THE PRESENT INSTRUCTIONS TO REMAIN IN FORCE UNTIL SUPERSEDED BY NEW COLOR PRINTED INSTRUCTIONS. IN ISSUING THE NEW INSTRUCTIONS, INFORMATION WILL BE FURNISHED AS TO WHICH PRESENT "F" INSTRUCTIONS, IF ANY, WILL BE SUPERSEDED.

METHOD GOVERNING THE ISSUANCE OF COLOR PRINTED INSTRUCTIONS
AND THE WITHDRAWAL OF SUPERSEDED INSTRUCTIONS.

FIRST - ISSUANCE AND AUTHORITY TO PLACE THE NEW INSTRUCTIONS IN EFFECT WILL BE FROM THE OFFICE OF ASSISTANT VICE-PRESIDENT - OPERATION AND CHIEF OF MOTIVE POWER.

SECOND - AN INTRODUCTORY SUPPLY OF A NEW INSTRUCTION WILL FIRST BE FORWARDED TO THE WORKS MANAGER AND GENERAL SUPERINTENDENTS MOTIVE POWER, WHO WILL ACKNOWLEDGE RECEIPT OF SAME ON FORM G-79, ADVISING THE NUMBER OF COPIES REQUIRED FOR EACH OF THE VARIOUS POINTS UNDER THEIR JURISDICTION THAT ARE INVOLVED OR CONCERNED IN THE WORK COVERED BY THE INSTRUCTIONS.

IT IS HIGHLY IMPORTANT THAT THE ISSUANCE OF INSTRUCTIONS AND REVISIONS TO SAME BE HANDLED IN A MANNER AS WILL PROMOTE EXPEDITIOUS DELIVERY TO THE POINTS CONCERNED. IN ORDER TO FACILITATE THIS DELIVERY ALL REQUESTS FOR COPIES OF INSTRUCTIONS MUST PASS THROUGH OFFICES OF THE WORKS MANAGER AND GENERAL SUPERINTENDENTS OF MOTIVE POWER FOR PURPOSE OF APPROVAL AND RECORD AS TO THE INDIVIDUAL POINTS AND NUMBER OF COPIES REQUIRED FOR EACH POINT. A RECORD OF ISSUANCE WILL BE MAINTAINED FOR THE ASSISTANT VICE-PRESIDENT - OPERATION AND CHIEF OF MOTIVE POWER, BY THE GENERAL SHOP INSPECTOR, ALTOONA, PA., TO EXPEDITE HANDLING AS TO LOCATION ABBREVIATION AND CONSECUTIVE COPY NUMBER AS OUTLINED ON SHEET No. 2.

THIRD - EACH OF THE NEW INSTRUCTIONS TO BE NUMBERED CONSECUTIVELY AND TO REFER AS FAR AS POSSIBLE TO ONLY ONE METHOD, OPERATION OR SUBJECT.

WHEN ANY CHANGES OR ADDITIONS ARE MADE TO AN INSTRUCTION, A NEW ISSUE OF THE SHEET OR SHEETS INVOLVED WILL BE FURNISHED AS FOLLOWS:

- (A) INSTRUCTIONS COVERED ON ONE SHEET ONLY, WHEN REVISED, WILL SHOW THE DATE OF REVISION AND ISSUE DATE OF THE ONE SUPERSEDED. THE NUMBER WILL BE CHANGED BY ADDING A SUFFIX LETTER, STARTING WITH "A"; FOR EXAMPLE, ORIGINAL ISSUE F-1 WHEN REVISED WOULD BE RE-ISSUED F-1-A, THE SECOND REVISION F-1-B, ETC.

FREIGHT CAR MAINTENANCE INSTRUCTIONS

Issued Apr. 15. '52.

THIRD - CONTINUED

(B) INSTRUCTIONS INVOLVING MORE THAN 1-SHEET, WHEN REVISED, WILL BE FURNISHED ONLY BY INDIVIDUAL SHEET OR SHEETS REQUIRING REVISION; HOWEVER SUCH REVISED SHEET OR SHEETS WILL SHOW THE ORIGINAL OR PREVIOUS ISSUE DATE AND THE RE-ISSUE DATE. THE FIRST SHEET WHICH SHOWS THE INSTRUCTION NUMBER WILL NOT BE REVISED TO CHANGE THE NUMBER ONLY. SUCH INSTRUCTIONS WILL NOT HAVE NUMBER CHANGED BY ADDITION OF SUFFIX LETTER UNTIL NECESSARY TO RE-WRITE AND RE-ISSUE THE ENTIRE INSTRUCTION.

FOURTH - EACH COMPLETE INSTRUCTION WILL BE FURNISHED WITH AN IDENTIFICATION NUMERICAL COPY NUMBER SHOWN ON FIRST SHEET IN UPPER RIGHT CORNER, TOGETHER WITH ABBREVIATION OF TERRITORY OR DEPARTMENTAL OFFICE FURNISHED TO. NUMBERS WILL START WITH 1 FOR EACH RECEIVING POINT AS SHOWN BELOW:

<u>LOCATION</u>	<u>M.E. DEPARTMENTS</u>	<u>ABBREVIATIONS AND NUMBER</u>
ASSISTANT VICE-PRESIDENT - OPERATION AND CHIEF OF MOTIVE POWER, GENERAL OFFICES, PHILA., PA.		A.V.P. & C. of M.P. No. 1, Etc.
ALTOONA WORKS _____		A.W. No. 1, Etc.
EASTERN REGION _____		E.R. No. 1, Etc.
CENTRAL REGION _____		C.R. No. 1, Etc.
WESTERN REGION _____		W.R. No. 1, Etc.
MECHANICAL ENGINEER _____		M.E. No. 1, Etc.
ELECTRICAL ENGINEER _____		E.E. No. 1, Etc.
ENGINEER OF TESTS _____		E.T. No. 1, Etc.
SUPERVISOR M.P. EXPENDITURES _____		S.M.P.E. No. 1, Etc.
GENERAL FOREMAN M.C.B. CLEARING HOUSE _____		M.C.B. No. 1, Etc.
GENERAL SHOP INSPECTOR _____		G.S.I. No. 1, Etc.

OTHER DEPARTMENTS

PURCHASING AGENT _____	P.A. No. 1, Etc.
STORES MANAGER _____	S.M. No. 1, Etc.
OTHER DEPARTMENTS AND OFFICES _____	O.D. & O. No. 1, Etc.

INDIVIDUAL INSTRUCTION SHEETS AS MAY APPLY TO A PARTICULAR LINE OF WORK CAN BE SUPPLIED FOR PLACING UNDER GLASS OR POSTING ON BULLETIN BOARDS FOR INFORMATION OF WORKMEN. A RECORD OF SUCH SHEETS AS TO POINT FURNISHED AND DATE, TO BE KEPT SIMILAR TO COMPLETE INSTRUCTIONS.

FOR OFFICE USE THE NEW FREIGHT CAR INSTRUCTIONS TO BE PROTECTED WITH A LOOSE LEAF BINDER, IN WHICH THE INSTRUCTIONS MUST BE FILED IN NUMERICAL "F" INSTRUCTION ORDER, THE HIGHEST NUMBER BEING PLACED ON TOP IN FILE. THIS INSTRUCTION TO BE PLACED ON TOP OF HIGHEST NUMBER.

IT WILL BE THE RESPONSIBILITY OF THE WORKS MANAGER AND GENERAL SUPERINTENDENTS OF MOTIVE POWER TO SEE THAT ALL INSTRUCTIONS AND REVISIONS TO SAME ARE PROMPTLY HANDLED TO ALL INVOLVED POINTS AND TO SEE THAT FILES ARE MAINTAINED UP TO DATE.

ALL WORKMEN INVOLVED IN THE PERFORMANCE OF WORK AS OUTLINED IN THE INSTRUCTIONS MUST BE FAMILIAR WITH THE REQUIREMENTS AND THE INSTRUCTIONS MUST BE AVAILABLE FOR READY REFERENCE AT ALL POINTS WHERE THE WORK IS PERFORMED.

SUPERVISORS IN CHARGE OF THE WORK IN ADDITION TO BEING RESPONSIBLE FOR CORRECT WORKMANSHIP ARE ALSO RESPONSIBLE FOR KNOWING THAT THE WORKMEN ARE INSTRUCTED IN THE WORK TO BE DONE, THE PROPER METHOD OF DOING IT AND THAT THEY UNDERSTAND THE REQUIREMENTS OF THE INSTRUCTIONS.

H. T. COVER,

— 2 — ASSISTANT VICE-PRESIDENT - OPERATION
AND CHIEF OF MOTIVE POWER.

THE PENNSYLVANIA RAILROAD

FREIGHT CAR MAINTENANCE INSTRUCTIONS

INDEX

ISSUED PHILADELPHIA, PA.,
SEPTEMBER 15, 1952

NOTE: PREFIX "F" INDICATES FREIGHT CAR MAINTENANCE INSTRUCTIONS. NUMERAL FOLLOWING "F" INDICATES THE INSTRUCTION NUMBER IN INSTRUCTION SERIES.

WORK REQUIREMENT HEADINGS OR TITLES.	INST. No.	SUBJECT No.	PAGE No.
INSTRUCTIONS FOR INSPECTION AND REPAIRS TO WORN DRAFT GEAR STOPS (CARS DESIGNED WITH GEAR POCKETS 24-5/8 INCHES LONG) - SYSTEM FREIGHT CAR EQUIPMENT SHOPPED FOR REPAIRS.			
<u>INSPECTION</u>	F-1		1
<u>WHEN CARS SHOPPED FOR CLASS 1 OR 2 REPAIRS</u>	F-1		1
" " " " CLASS 3 REPAIRS	F-1		2
<u>FABRICATION OF LINERS</u>	F-1		2
<u>SELECTION OF LINERS FOR APPLICATION</u>	F-1		2
<u>FIT LINERS TO POSITION FOR WELDING</u>	F-1		2
<u>WELD LINERS TO STOP FACES</u>	F-1		3
<u>TYPES, SHAPES AND SIZES OF REAR STOPS, ETC.</u>	F-1		4
" " " " " FRONT " "	F-1		5
" " " " " DRAFT LUGS	F-1		5
INSTRUCTIONS FOR ASSEMBLING FREIGHT CAR TRUCK CAST STEEL SIDE FRAMES - METHOD TO BE FOLLOWED IN MATING FRAMES DUE TO WHEEL BASE VARIATION.	F-2		1
INSTRUCTIONS FOR DISMANTLE AND ASSEMBLE BUCKEYE CAR TRUCK, CLASS 2E-F28 WHEN NECESSARY TO REMOVE BOLSTER WEDGES AND SPRINGS FROM SIDE FRAMES.	F-3		1
NOTE: SEE GENERAL MAINTENANCE INSTRUCTIONS FOR THE FOLLOWING FREIGHT CAR WORK:			
<u>CARE AND HANDLING OF OLD JOURNAL BOX PACKING AND CARE OF PREPARED JOURNAL BOX PACKING</u>	G-1		
<u>METHOD OF PACKING JOURNAL BOXES</u>	G-1		
<u>APPLICATION OF PACKING RETAINERS</u>	G-1		
<u>METHOD OF RE-SETTING PACKING WHEN BOXES ARE NOT REPACKED</u>	G-1		
<u>ATTENTION TO FRICTION JOURNAL BOXES</u>	G-1		
<u>WORKMANSHIP AND CARE OF JOURNALS</u>	G-1		
<u>PRELIMINARY INSPECTION JOURNAL BEARINGS AT TIME REMOVED TO DETERMINE IF SUITABLE FOR RECLAMATION (CROWN THICKNESS, ETC.)</u>	G-2		
<u>INSPECTION OF JOURNAL BEARINGS, TO DETERMINE IF SUITABLE FOR RECLAMATION AND INSPECTION AFTER RECLAIMED BY BROACHING AT RECLAMATION POINTS</u>	G-3		

THE PENNSYLVANIA RAILROAD
FREIGHT CAR MAINTENANCE INSTRUCTIONS NO. F-1.

ISSUED PHILADELPHIA, PA.
JANUARY 15, 1952.

INSTRUCTIONS FOR INSPECTION AND REPAIRS TO WORN DRAFT GEAR STOPS (CARS DESIGNED WITH GEAR POCKETS 24-5/8 INCHES LONG)
SYSTEM FREIGHT CAR EQUIPMENT SHOPPED FOR REPAIRS.

NOTE: INDIVIDUAL DRAFT GEAR LUGS OR COMBINED STRIKER & FRONT DRAFT GEAR STOP AND COMBINED CENTER PLATE REINFORCEMENT & REAR DRAFT GEAR STOP WILL BE REFERRED TO HEREINAFTER AS "STOPS", OR "FRONT STOPS" OR "REAR STOPS". STANDARD DRAFT GEAR POCKET GAUGE TRACING D-447195 (BASIC NUMBER) WILL BE REFERRED TO HEREINAFTER AS "STANDARD POCKET GAUGE" OR "GAUGE".

INSPECTION

WHEN CARS ARE SHOPPED FOR CLASS I, II OR III REPAIRS, DRAFT GEARS MUST BE REMOVED TO PERMIT INSPECTION. AFTER GEARS ARE REMOVED THE GEAR POCKETS MUST BE GAUGED AS OUTLINED IN THIS INSTRUCTION.

MAINTENANCE OF DRAFT GEAR POCKETS: - WHEN CARS SHOPPED FOR CLASS I OR II REPAIRS.

PROCEDURE TO BE FOLLOWED WHEN STOPS ARE REMOVED.

WHEN REMOVED FROM CENTER SILLS FOR ANY REASON AND SUITABLE FOR FURTHER SERVICE (AFTER GAUGED AND STOP FACE LINERS APPLIED WHEN NECESSARY) OR WHEN RENEWED, SAME TO BE APPLIED TO PROPER LOCATION IN ACCORDANCE WITH STANDARD TRACINGS TO PROVIDE THE STANDARD GEAR POCKET LENGTH OF 24-5/8 INCHES, PLUS 0", MINUS 1/16" AS WELL AS TO MAINTAIN THE CORRECT RELATION OF STOP AND STRIKER FACES.

METHOD OF LOCATING STOPS.

LOCATE EITHER FRONT OR REAR STOPS TO PROPER POSITION IN THE SILLS.
APPLY STANDARD POCKET GAUGE WITHOUT THE 1/8 INCH SLIP ON PLATE AND LAYOUT POSITION ON CENTER SILLS FOR OPPOSITE STOPS.
REMOVE GAUGE.
SET OPPOSITE STOPS TO LAYOUT LINES.
TEST CORRECTNESS OF POCKET LENGTH WITH GAUGE. IN NO CASE SHALL STOPS BE ADJUSTED BY SLEDGING WITH GAUGE IN POSITION, SINCE THE GAUGE WHICH IS DESIGNED FOR EASE OF HANDLING WILL BECOME DISTORTED IF UNDUE PRESSURE SUCH AS SLEDGING IS APPLIED.
WHEN STOPS ARE CORRECTLY LOCATED, THEY SHOULD BE TACK WELDED TO INSURE NOT BEING DISLOCATED THROUGH THE COURSE OF BOLTING AND REAMING.

PROCEDURE TO BE FOLLOWED WHEN STOPS ARE NOT REMOVED.

APPLY STANDARD POCKET GAUGE WITHOUT THE 1/8 INCH SLIP ON PLATE TO POCKET OPENING TO CHECK WEAR OF STOPS. IF OPENING BETWEEN GAUGE AND STOP AT ANY ONE OR MORE OF THE FOUR STOP FACES EXCEEDS 1/16 INCH, LINERS OF PROPER THICKNESS MUST BE APPLIED TO SUCH WORN FACES TO BRING THE GEAR POCKET BACK TO STANDARD DIMENSIONS OF 24-5/8 INCHES, PLUS 0", MINUS 1/16". IN APPLYING LINERS, THE PROPER LOCATION AS TO RELATION OF STOP AND STRIKER FACES TO BE MAINTAINED.

FREIGHT CAR MAINTENANCE INSTRUCTIONS NO. F-1.

ISSUED JAN. 15, '52.

MAINTENANCE OF DRAFT GEAR POCKETS - WHEN CARS SHOPPED FOR CLASS III REPAIRS.

PROCEDURE TO BE FOLLOWED WHEN STOPS ARE REMOVED.

WHEN REMOVED ACCOUNT OF BEING DEFECTIVE OR FOR ANY OTHER REASON, THE DRAFT GEAR POCKET MUST BE BROUGHT BACK TO STANDARD BY FOLLOWING SAME METHOD AS OUTLINED FOR CLASS I OR II REPAIRS WHEN STOPS ARE REMOVED.

PROCEDURE TO BE FOLLOWED WHEN STOPS ARE NOT REMOVED.

CHECK DRAFT GEAR POCKET OPENING WITH STANDARD POCKET GAUGE WITH THE 1/8 INCH SLIP ON PLATE APPLIED. IF GAUGE CANNOT BE APPLIED TO THE POCKET OPENING THE STOP WEAR IS NOT EXCESSIVE AND LINERS SHOULD NOT BE APPLIED, HOWEVER IF GAUGE CAN BE APPLIED, STOP FACE WEAR IS EXCESSIVE AND PROPER THICKNESS LINERS MUST BE APPLIED TO ONE OR MORE OF THE FOUR STOP FACES AS REQUIRED TO BRING THE POCKET OPENING TO STANDARD DIMENSION OF 24-5/8 INCHES, PLUS 0", MINUS 1/16", IN THE SAME MANNER AS OUTLINED FOR CLASS I OR II REPAIRS WHEN STOPS ARE NOT REMOVED.

NOTE: WHEN CARS ARE SHOPPED FOR LIGHT REPAIRS AT POINTS EQUIPPED WITH WELDING FACILITIES AND DRAFT GEAR IS REMOVED FOR ANY REASON THE GEAR POCKET SHOULD BE CHECKED WITH GAUGE AND HANDLED IN SAME MANNER AS OUTLINED FOR CLASS III REPAIRS, WHEN STOPS REMOVED AND WHEN STOPS ARE NOT REMOVED.

FABRICATION OF LINERS.

TO BE FABRICATED IN QUANTITIES READY FOR APPLICATION AND WORKING STOCK SHOULD BE AVAILABLE AT REPAIR SHOPS AND YARDS WHERE LINERS ARE APPLIED.

TO BE FABRICATED 1/8 INCH IN THICKNESS AND GREATER, IN 1/16 INCH VARIATIONS TO A MAXIMUM OF 3/8 INCH.

SELECTION OF LINERS FOR APPLICATION.

SELECT STEP SIZE LINER 7/16 INCH NARROWER THAN THE STOP FACE ON WHICH IT IS TO BE APPLIED. AS WILL BE NOTED IN SKETCHES (SHEET 3) THE 7/16 INCH WILL PROVIDE 1/4 INCH AT CENTER SILL AND 3/16 INCH ON OPEN SIDE OF STOP FOR WELDING CLEARANCE. THE LENGTH TO BE SUFFICIENT TO PROVIDE BEARING SURFACE THE HEIGHT OF THE FOLLOWER BLOCK OR GEAR BASE WHEN IN POSITION. IN USING THE STEP LENGTH LINERS IN SOME CASES THE LINER MAY BE SLIGHTLY LONGER THAN THE STOP FACE BUT SINCE NO WELDING IS TO BE DONE ON TOP EDGE, THE SLIGHT INCREASE IN LINER LENGTH WILL NOT BE OBJECTIONABLE. IN ALL CASES THE LINER SHOULD BE FLUSH WITH BOTTOM OF STOP FACE EXCEPT SOME REAR STOPS THAT ARE DESIGNED WITH CLEARANCE FOR ANGLE TO REINFORCE THE CENTER SILL AND BOLSTER LOCATION AS SHOWN IN SKETCH NO. 2 - SHEET 3.

FIT LINERS TO POSITION FOR WELDING.

LINERS TO BE HELD FIRMLY IN POSITION FOR WELDING WITH SMALL HEAVY DUTY "C" CLAMPS OR OTHER SIMILAR HOLDING TOOL.

ONLY ONE LINER OF PROPER THICKNESS MAY BE WELDED TO A STOP FACE. THE USE OF MORE THAN ONE LINER TO PROVIDE REQUIRED THICKNESS ON ANY ONE STOP FACE IS NOT PERMITTED.

FREIGHT CAR MAINTENANCE INSTRUCTIONS NO. F-1.

ISSUED JAN. 15, '52.

WELD LINERS TO STOP FACES.

WELDING TO BE PERFORMED BY THE SHIELDED METALLIC ARC METHOD.

WHEN STOPS ARE NOT REMOVED.

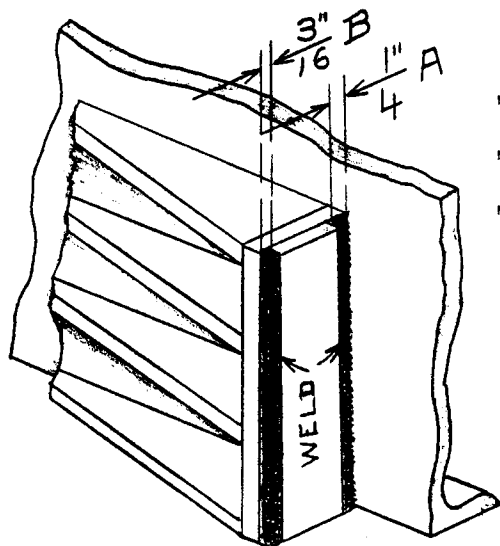
SKETCH NO. 1 - WELD FULL LENGTH OF TWO VERTICAL EDGES OF LINER. THE WELD ON OPEN SIDE OF STOP (LOCATION "B"), TO BE FILLET, OF SIZE EQUAL TO THICKNESS OF LINER TO MAXIMUM OF 5/16 INCH. THE WELD AT LOCATION "A" MUST FILL THE SQUARE GROOVE BETWEEN EDGE OF LINER AND CENTER SILL FLUSH BUT NOT BEYOND FACE OF LINER.

SKETCH NO. 2 - WELD FULL LENGTH OF VERTICAL EDGE ON OPEN SIDE OF STOP (LOCATION "B") AND BOTTOM EDGE (LOCATION "C"), TO BE FILLET, OF SIZE EQUAL TO THICKNESS OF LINER TO MAXIMUM OF 5/16 INCH. THE WELD AT LOCATION "A" MUST FILL THE SQUARE GROOVE BETWEEN EDGE OF LINER AND CENTER SILL FLUSH BUT NOT BEYOND FACE OF LINER OF THE VERTICAL DISTANCE FROM TOP OF LINER TO OFF-SET OF STOP FACE.

WHEN STOPS ARE REMOVED.

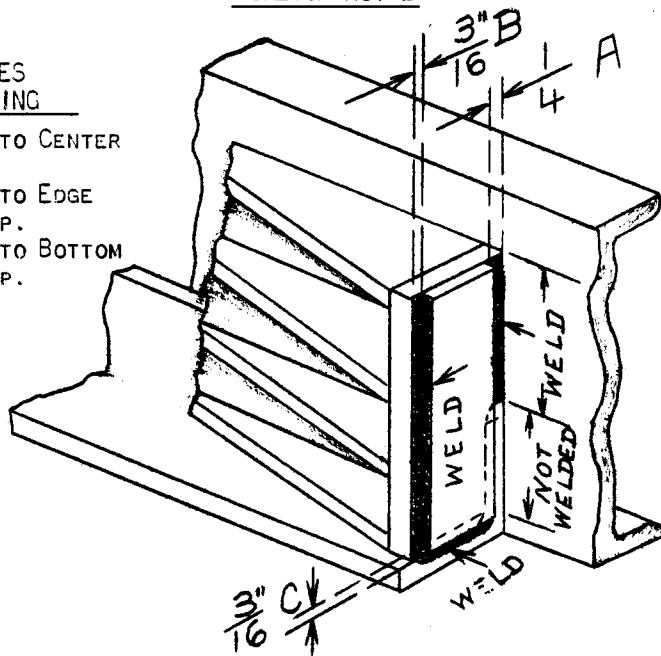
REAR STOPS SHOULD BE GAUGED FOR WEAR, FROM CENTER OF CENTER PIN HOLE TO FACE OF STOPS AND FRONT STOPS FROM FACE OF STRIKER TO FACE OF STOPS USING DIMENSIONS SHOWN ON STANDARD TRACINGS. WHEN STOP FACES ARE WORN MORE THAN 1/16 INCH UP TO 1/8 INCH, A LINER 1/8 INCH THICK TO BE APPLIED. WHEN WORN MORE THAN 1/8 INCH, LINER OF PROPER THICKNESS TO BE APPLIED. THE APPLICATION OF LINERS TO BE THE SAME AS SHOWN BELOW EXCEPT THE WELDING WILL BE TO STOP FACE ONLY.

SKETCH NO. 1



STOP FACE RECTANGULAR SHAPE.

SKETCH NO. 2



STOP FACE WITH OFFSET (CLEARANCE)
FOR REINFORCING ANGLE.

FREIGHT CAR MAINTENANCE INSTRUCTIONS NO. F-1.

ISSUED JAN. 15, '52.

REAR DRAFT STOPS AND FRONT DRAFT STOPS.

TO FACILITATE SELECTION OF PROPER STEP SIZE LINERS, TABLE BELOW AND TABLE ON SHEET 5 SHOWS CERTAIN STANDARD TRACING INFORMATION AS TO STOP FACE SHAPE AND SIZE, SIZE OF LINER TO BE APPLIED WHEN REQUIRED, ETC. FOR VARIOUS TYPES AND CLASSES OF SYSTEM FREIGHT EQUIPMENT. THE CLASSES SHOWN DO NOT REPRESENT ALL OF THE SYSTEM EQUIPMENT, HOWEVER CLASSES REPRESENTING THE LARGER ASSIGNMENTS ARE INCLUDED.

THE SCOPE OF LINER SIZES SHOWN WILL GENERALLY COVER OUR FREIGHT EQUIPMENT DESIGNED WITH 24-5/8 INCH GEAR POCKETS. TO INSURE THE CORRECT SIZE LINER BEING SELECTED THE STOP FACE SHOULD BE MEASURED AND LINER SELECTED THAT PROVIDES WELDING CLEARANCES AS INDICATED BY SKETCHES No. 1 AND No. 2, SHEET 3.



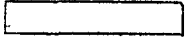
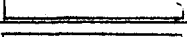

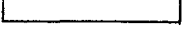

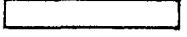
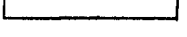
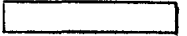

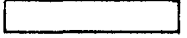
REAR STOPS

CLASS	TRACING BASIC No.	WELDED OR CAST	STOP FACE SIZE	SHAPE OF STOP FACE	SIZE OF LINERS TO BE APPLIED
GLCA, GLCB	C-422998	WELDED	2-3/4"x12-1/8"		2-5/16"x10"
F22,23,25,25A,25B,25c,FM,FGR, FGRA, GR,GRA,G21,N5	D-428359	WELDED	2-15/16" AND		2-1/2"x8-1/2"
	D-441890	V-8906	2-7/32"x8-1/2"		
G22,G22B,H25 (CAST YOKE Y-40)	D-441338	V-11849	2-15/16" AND 2-7/32"x8-15/32"		2-1/2"x8-1/2"
	D-75700	V-8907A	2-15/16" AND 2-11/32"x8-21/32"		
F24,GLA, GLF,GLG,H21A,H21D, H22,H22A,K7,K7A,X23,X24	D-428348	WELDED	2-7/8"x8-5/8"		2-9/16"x8-1/2"
	D-86823	V-9556	3"x8-11/16"		
GP, GPA	D-427419	WELDED	3"x8-5/8"		2-9/16"x8-1/2"
	D-86823	V-9556	3" AND 2-1/4" X9-1/16"		
N5, WITH VERTICAL YOKE	D-89518	V-9702	3" AND 2-1/4" X9-1/16"		2-9/16"x9"
GLE	D-406704	V-6754	3"x9-1/8"		2-9/16"x9"
GS, GSH	D-431031	WELDED	3"x9-1/4"		
H21B,H21E,H27,H30,X29,X29B(V-YOKE)	D-429358	WELDED	3"x10-3/16"		2-9/16"x10"
G26A,G27, A-END ONLY	D-414586	WELDED	3" x 10"		
G26A, WITH VER. YOKE, G26A, G27-A END	D-408350	V-9868A			
G27 B-END	D-408337	V-968			
X30,31,31A,31B,31C,31F,32,32A,32B, 33,33A	E-96552	V-753			
H21B,H21E,H27,H30,X29,X29B(V-YOKE)	D-438076	V-9531A	3"x9-3/4"		2-9/16"x10-1/2"
G33	C-441356	V-11901	3"x12-1/2"		
X37,37A,37B,38, 38A B-END	D-418013	WELDED			
G28,29,29A,29B,30	D-419902	"			
X38A A-END	D-423971	"			
H31,31A,31B	D-424630	"	3"x12-15/32"		
G31,32	D-440011	"			
X40,40A,40B,41,41A,41B,41C	D-432644	"	3"x15-7/8"		
H32	D-439225	"			
N5B,N5c	D-422531	"	3"x12"		
F30,F31A	D-88738	V-9654	3"x10-11/16"		
F37	D-426095	WELDED	3"x11-1/2"		
X26,26A,26c	D-433151	"	3"x11-1/8"		

FREIGHT CAR MAINTENANCE INSTRUCTIONS NO. F-1.

ISSUED JAN. 15, '52.

FRONT STOPS AND FRONT & REAR DRAFT LUGS.

CLASS	TRACING BASIC NO.	WELDED OR CAST	STOP FACE SIZE	SHAPE OF STOP FACE	SIZE OF LINERS TO BE APPLIED
GLE	D-406703	V-6753	2-1/16"x8-1/2"		1-5/8"x8-1/2"
GP, GPA WITH CAST STEEL YOKE	D-83937	V-9325			
H21A, 21B, 21D, 21E, 22, 22A	D-90277 D-416837	V-9769 WELDED			
G26A, 27, H30, X29, 29B, 30, 31, 31A, X31B, 31C, 31F, 32, 32A, 32B, 33, 33A	C-414584	WELDED	2-1/16"x12-1/8"		1-5/8"x9-1/2"
F30, F31A	D-88737	V-9653	2-1/16"x10-3/4"		
N5 VERTICAL YOKE	D-89517	V-9701	2-1/16"x10"		1-5/8"x9-1/2"
X29, G26, H27	D-86518	V-9530	2-1/16"x10-1/4"		
G26A, 27, H30, X26, 29, 30, 31, 31A, 31B, X31C, 31F, 32, 32A, 32B, 33, 33A	E-438001	V-53	2-1/16"x10-1/2"		
G33A, X45	D-446313	WELDED	2-1/16"x9"		1-5/8"x10"
GLCA, GLCb	D-422991	"	2-1/16"x12-7/8"		
GLA, GLF, GLG	D-427711	"	2-1/16"x10-1/4"		
G22, G22B, H25	D-441339	V-11850	2-1/16"x10"		1-5/8"x10"
G24, G25, GLD, X26 FRONT LUG	F-63178	USS 1096	2-1/16"x10-1/4"		
H32	D-439213	WELDED	2-1/16"x15-1/4"		
F37, F37A	C-426248	"	2-1/16"x12-1/2"		1-5/8"x10-1/2"
GLA, GLF, GLG, FM, F22, GR, GRA, GRB (FOR 5"x7" COUPLER)	C-444617	V-7210A	2-1/16"x10-1/2"		
G31, G32	D-439997	"	2-1/16"x12-15/32"		
G33	D-441285	"			
X40, 40A, 40B, 41, 41A, 41B, 41C	D-432646	"	2-1/16"x11"		1-5/8"x10-1/2"
N5, N5B, N5c	C-422689	"			
X38 A-END	D-423956	"			
G28, 29, 29A, 29B, 30, H31, 31A, 31B, X37, 37A, 37B, 38, X38A B-END	C-417996	"	2-1/16"x12-5/8"		2-9/16"x10"
G25 REAR LUG	F-63177	USS 1098 USS 1501	3"x10-1/4"		
N5 WITH COLLISION POSTS, VER. YOKE 6"x1-1/2" KEY (REAR LUG).	F-424953	WELDED	3"x12"		
X23, 24, G21, F24, 25, 25A, K7, 7A	D-72971	V-7034	2-15/16"x11"		2-1/2"x10-1/2"
F22, FM, GR, GRA, GRB	C-66525	V-7210	2-15/16"x10-1/2"		
ND, NDA LUGS	D-86032	V-9487	3-1/8"x10-1/2"		2-11/16"x10"
FM, GLA, GR, GRA, GS, GSA, GSc, GSD, H21A, N6A, N6B LUGS	"	V-9488			
	C-417254	No. 1, No. 2			
KF, KFA, RF LUGS	D-86032	V-9487	3-1/8"x10"		2-11/16"x10"
	"	V-9489			
	"	V-9490			
	C-417254	No. 1, No. 2			
	"	No. 7			
	D-86032	V-9493			
G25 REAR LUG	F-63177	USS 1098 USS 1501	2-9/16"x10-1/4"		2-1/8"x10-1/4"
GS, GSH	D-431033	WELDED	1-3/4"x10"		

H. T. COVER,

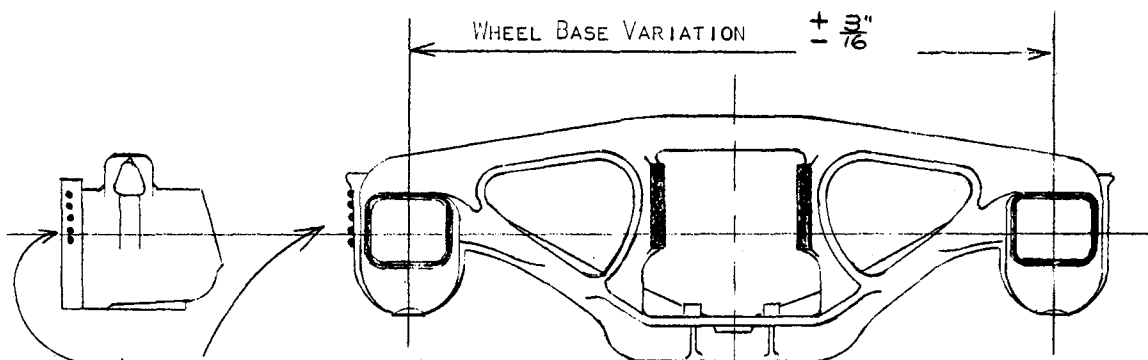
ASSISTANT VICE-PRESIDENT - OPERATION
AND CHIEF OF MOTIVE POWER.

THE PENNSYLVANIA RAILROAD
 FREIGHT CAR MAINTENANCE INSTRUCTIONS NO. F-2.

ISSUED PHILADELPHIA, PA.
 OCTOBER 15, 1951.

INSTRUCTIONS FOR ASSEMBLING CAST STEEL SIDE FRAMES.

IN ASSEMBLING NEW CAST STEEL SIDE FRAME TRUCKS AND WHEN A NEW CAST STEEL SIDE FRAME OR FRAMES ARE APPLIED TO REPAIR TRUCKS, THE SIDE FRAMES MUST BE MATED AS TO THE WHEEL BASE DIMENSION. NEW SIDE FRAMES ARE CAST WITH FIVE 1/4 INCH BUTTON HEADS TO PERMIT MATING FRAMES AT TIME OF ASSEMBLY SO THAT THE WHEEL BASE (CENTER TO CENTER OF BOXES) MAY BE KEPT WITHIN THE ESTABLISHED TOLERANCE AS DESCRIBED BELOW.



FIVE 1/4 INCH BUTTON HEADS 1/4 INCH HIGH CAST ON THE LEFT HAND JOURNAL BOX AS SHOWN AND TO BE CHIPPED OFF AS FOLLOWS BY THE MANUFACTURER TO INDICATE WHEEL BASE VARIATION.

PLUS ↑ NORMAL ↓ MINUS	$+ \frac{3}{16}$.075" #5 - 5 BUTTON HEADS REMAINING.
		.075" #4 - 4 BUTTON HEADS REMAINING.
		.075" #3 - 3 BUTTON HEADS REMAINING.
		.075" #2 - 2 BUTTON HEADS REMAINING.
	$- \frac{3}{16}$.075" #1 - 1 BUTTON HEAD REMAINING.

SEE
 TRACING
 D-437285
 (BASIC NUMBER)

FRAMES OF LIKE NUMBER OF BUTTON HEADS TO BE ASSEMBLED IN THE SAME TRUCK. HOWEVER, FRAMES CONSECUTIVELY NUMBERED MAY BE MATED, THAT IS, 1 & 2, OR 3 & 4, ETC. MAY BE PAIRED, BUT 1 & 3, OR 3 & 5, ETC. MUST NOT BE ASSEMBLED IN THE SAME TRUCK.

RECLAIMED SIDE FRAMES NOT ORIGINALLY PROVIDED WITH MATING BUTTON HEADS MUST BE GAUGED AND STENCILED WITH PROPER CLASSIFICATION NUMBER IN THE SAME LOCATION AS PROVIDED FOR BUTTON HEADS.

WHEN A NEW CAST STEEL SIDE FRAME IS APPLIED TO A REPAIR TRUCK, THE OPPOSITE OLD FRAME FIRST TO BE CHECKED AS TO THE NUMBER OF BUTTON HEADS AND IF FRAME WAS CAST WITHOUT BUTTON HEADS, FRAME TO BE GAUGED (CENTER TO CENTER OF BOXES) AND NEW FRAME OF APPROPRIATE WHEEL BASE DIMENSION SELECTED FOR MATING. PREVIOUS TO THE ADOPTION OF THE BUTTON HEAD METHOD OF MATING, SOME FRAMES WERE CAST WITH 1" RAISED NUMERALS 1-2 & 3 IN SAME LOCATION AS THE BUTTON HEADS. TO PROPERLY MATE A BUTTON HEAD FRAME TO ONE HAVING A NUMERAL, SEE TRACINGS D-423138 AND D-437285 (BASIC NUMBERS).

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THE PENNSYLVANIA RAILROAD

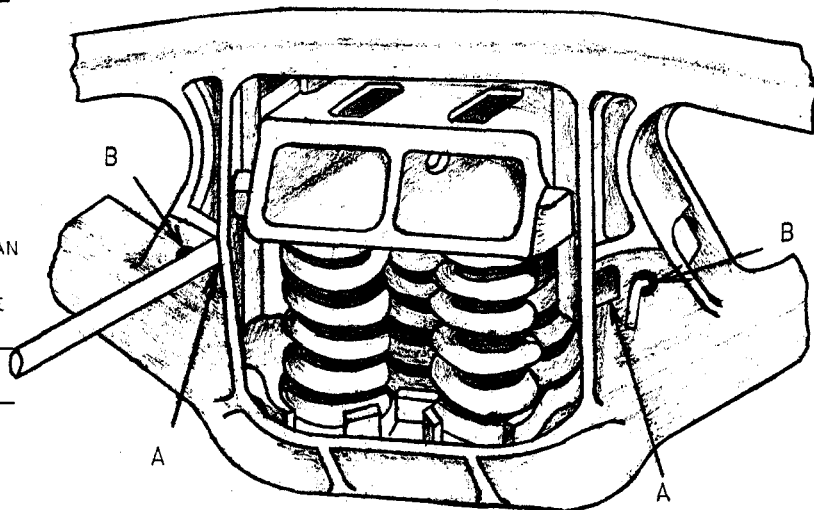
FREIGHT CAR MAINTENANCE INSTRUCTIONS NO.F-3

ISSUED PHILADELPHIA, PA.
JANUARY 15, 1952.

INSTRUCTIONS FOR DISMANTLE AND ASSEMBLE BUCKEYE CAR TRUCK, CLASS 2E-F28
WHEN NECESSARY TO REMOVE BOLSTER WEDGES AND SPRINGS FROM SIDE FRAMES.

TO RETRACT WEDGES AND DISMANTLE TRUCK.

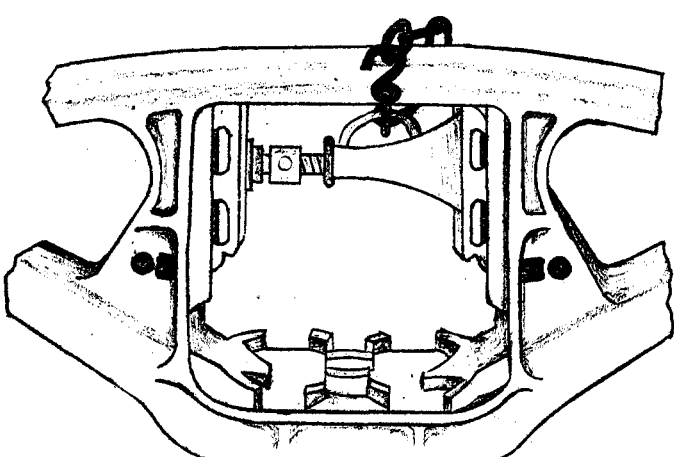
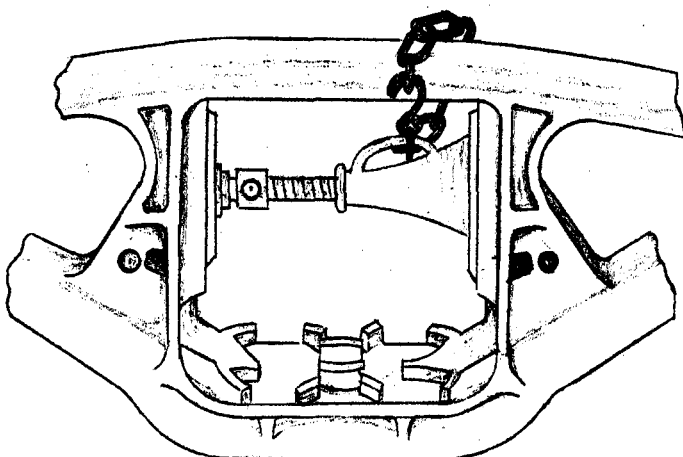
- 1ST - INSERT A PINCH BAR IN HOLE "A" IN ONE SIDE FRAME COLUMN WALL SO THAT THE END OF THE BAR RESTS ON TOP OF THE FRICTION WEDGE TIE.
- 2ND - RAISE THE OUTER END OF THE BAR SO AS TO COMPRESS THE WEDGE SPRING AND FORCE THE WEDGE DOWNWARDLY ALONG THE INCLINED SURFACE ON THE SIDE FRAME COLUMN UNTIL A 1/2 INCH DIAMETER PIN CAN BE INSERTED IN HOLE "B" THROUGH BOTH WALLS OF THE COLUMN AND ABOVE THE WEDGE TIES.
- 3RD - REPEAT 1ST AND 2ND OPERATIONS ON EACH SIDE FRAME COLUMN.
- 4TH - WITH THE FRICTION WEDGES NOW PINNED IN THE SIDE FRAME COLUMNS THE TRUCK CAN BE DISMANTLED, THE REQUIRED MAINTENANCE WORK PERFORMED AND TRUCK RE-ASSEMBLED IN THE USUAL MANNER.



NOTE: AFTER TRUCK IS RE-ASSEMBLED, THE RETAINING PINS MUST BE REMOVED FROM HOLES "B" FOR PROPER AND SAFE OPERATION OF TRUCK. THESE PINS CAN BE RELEASED FOR EASY REMOVAL BY USE OF A PINCH BAR AS DESCRIBED ABOVE.

TO REMOVE FRICTION WEDGES AND SPRINGS FROM SIDE FRAMES.

- THE FOLLOWING METHOD TO BE EMPLOYED AFTER TRUCK HAS BEEN DISMANTLED AS SHOWN ABOVE:
- 1ST - APPLY SCREW OR TRENCH JACK AND SAFETY CHAIN AS SHOWN BELOW.
 - 2ND - APPLY PRESSURE ON THE WEDGES FORCING THEM INTO THE FRAME COLUMNS UNTIL THE PRESSURE ON THE RETAINING PINS IS RELEASED AND THEY CAN BE REMOVED EASILY.
 - 3RD - REMOVE THE RETAINING PINS AND GRADUALLY RELEASE THE PRESSURE ON THE WEDGES SO THAT THEY MOVE UPWARDLY ALONG THE INCLINED SURFACES OF THE SIDE FRAME COLUMNS UNTIL ALL COMPRESSION IS RELEASED FROM THE WEDGE SPRINGS.
- NOTE: RE-ASSEMBLY TO BE PERFORMED BY REVERSING 1ST, 2ND AND 3RD OPERATIONS.



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