PROPERTY DAMAGE, SEVERE INJURY AND/OR DEATH COULD RESULT FROM:

(1) FAILING TO FOLLOW THE INSTRUCTIONS CONTAINED IN THIS MAINTENANCE MANUAL;
OR
(2) REPAIRING, MODIFYING OR ALTERING ANY BARBER/SCT PRODUCT IN A MANNER THAT IS NOT INCLUDED IN THIS MAINTENANCE MANUAL.

IF YOUR SPECIFIC APPLICATION:

(1) REQUIRES A DEVIATION FROM THE INSTRUCTIONS CONTAINED IN THIS MAINTENANCE MANUAL;
(2) REQUIRES A REPAIR, MODIFICATION OR ALTERATION OF A BARBER/SCT PRODUCT THAT IS NOT INCLUDED IN THIS MAINTENANCE MANUAL;
OR
(3) RAISES ANY QUESTION ABOUT THE INSTRUCTIONS SPECIFIED IN THIS MAINTENANCE MANUAL,
PLEASE CONTACT YOUR BARBER/SCT REPRESENTATIVE FOR SPECIFIC INSTRUCTIONS REGARDING YOUR APPLICATION.

TO CONTACT YOUR BARBER/SCT REPRESENTATIVE:

PLEASE SEE THE “STANDARD CAR TRUCK COMPANY CONTACT INFORMATION” PAGE AT THE START OF THE FULL MANUAL.

Column Wear Plates

4-A Inspection & Restoration

- Barber Side Frame Column Inspection & Restoration Guide

4-B Parts

- Type-1 Column Wear Plates (Weld Only)
- Type-2 Column Wear Plates (Bolt Only OR Bolt and Weld)
- Type-3 Column Wear Plates (Bolt Only OR Bolt and Weld)
- Type-4 Column Wear Plates (Weld Only)

4-C Application Procedure

- Type-1 Column Wear Plates Weld Only Application
- Type-2 & Type-3 Column Wear Plates Bolt Only Application
- Type-2 & Type-3 Column Wear Plates Bolt and Weld Application
- Type-4 Column Wear Plates Weld Only Application

If possible, please supply side frame or bolster AAR code number (9 digit) and casting pattern number, when ordering replacement components.

Column Wear Plates

Inspection

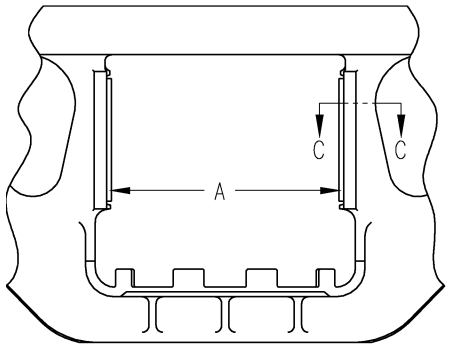
- Wear plates missing, broken, or worn to less than ¼” thick should be replaced.

Restoration

- Shims behind wear plates, or thicker wear plates may be required if the distance between column wear plates is ¼” greater than the nominal dimension.

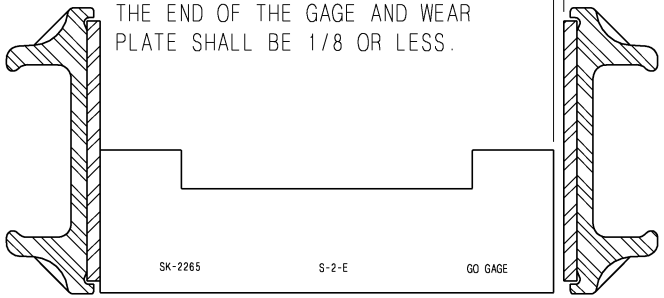
Wabtec, Standard Car Truck
6400 Shafer Court – Ste 450, Rosemont, Illinois 60018, U.S.A.
Phone (847) 692-6050 Email: SCTTechCustomerService@Wabtec.com

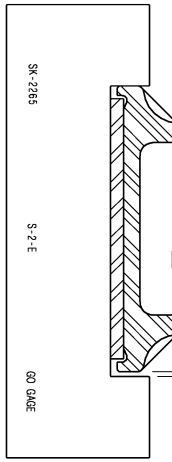
Barber Side Frame Column Inspection & Restoration Guide



INS. IF 3/8 SHIM FITS BETWEEN END OF THE GAGE AND WEAR PLATE, REPLACE WEAR PLATES AND REBUILD SIDE FRAME COLUMN IF NECESSARY.

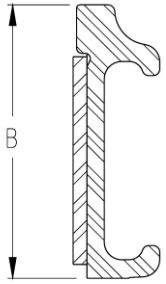
RES. THE FINISHED DISTANCE BETWEEN THE END OF THE GAGE AND WEAR PLATE SHALL BE 1/8 OR LESS.





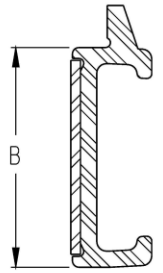
INS. REBUILD GUIDE WITH WELD PER RULE 48 OF THE FIELD MANUAL IF A 3/8 SHIM FITS BETWEEN GAGE AND SIDE FRAME GUIDE.

RES. AFTER REBUILDING GAGE SHALL FIT OVER GUIDE WITH A GAP OF 1/8 OR LESS.

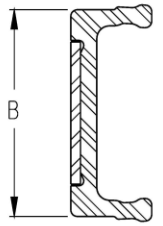


SECTION C-C
(STANDARD)

Truck Type	Capacity	A Min	B Max	Gage Number
S-2-A S-2-B S-2-C	50 Ton	12 15/16	6 1/8	SK-1503-1
	50 Ton Wide Land	12 15/16	7 5/8	
	70 Ton Low Conveyance	14 7/16	7 5/8	
	70 Ton 100 Ton	16 15/16	6 5/8	SK-1503-4
	70 Ton Wide Land 100 Ton Wide Land	16 15/16	8 1/8	
	100 Ton Combination	16 15/16	8 5/8	
	125 Ton	20 3/16	10 3/8	SK-1560-1
S-2-D S-2-HD-9C	100 Ton	17 7/16	10 1/16	SK-1503-7
S-2-HD	100 Ton	16 15/16	10 1/16	SK-1432
	125 Ton	19 3/16	11 1/8	SK-1560-2
S-2-E	70 Ton	16 15/16	10 11/16	SK-2265
	100 Ton	17 7/16	11 3/16	SK-2524



SECTION C-C
(COMBINATION)



SECTION C-C
(WIDE LAND)

Wabtec, Standard Car Truck
6400 Shafer Court – Ste 450, Rosemont, Illinois 60018, U.S.A.
Phone (847) 692-6050 Email: SCTTechCustomerService@Wabtec.com

Always Use Original Barber Parts

Column Wear Plates

Parts

- Type-1 Column Wear Plates (Weld Only)
- Type-2 Column Wear Plates (Bolt Only OR Bolt and Weld)
- Type-3 Column Wear Plates (Bolt Only OR Bolt and Weld)
- Type-4 Column Wear Plates (Weld Only)

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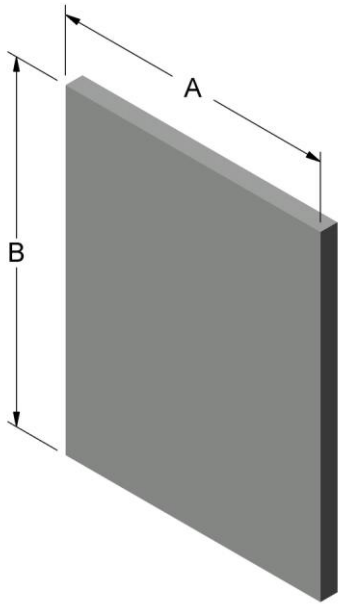
Phone (847) 692-6050 Email: SCTTechCustomerService@Wabtec.com

Type-1 Column Wear Plates (Weld Only)

Wear Plate Part Number By Thickness				Dimensions	
3/8	7/16	1/2	9/16	A	B
5706-101				4 1/2	8 1/2
5706-102		5708-113		5	8 1/2
5706-121		5708-101		5	8 3/4
5706-103		5708-107		5	9
5706-104		5708-102		5 1/2	8 1/2
5706-105	5707-101	5708-103	5709-101	5 1/2	8 3/4
5706-119		5708-109		5 1/2	9
5706-118				6	8
5706-110				6	8 15/16
5706-112				6	9
5706-108	5707-103	5708-105		6 1/2	9 1/4
5706-111				7	7
5706-113				7 1/2	7 1/2
5706-120	5707-104	5708-114		7 1/2	7 3/4
5706-115				7 1/2	8
5706-114		5708-106		7 1/2	8 1/16
5706-117	5707-105	5708-108	5709-103	7 1/2	8 5/16
5706-109		5708-111		7 1/2	8 1/2
5706-116		5708-112		7 1/2	8 9/16
5706-107		5708-110		7 1/2	8 15/16
5706-123				7 1/2	9 3/16
5706-106	5707-102	5708-104	5709-102	7 1/2	9 7/16
5706-122				10 1/2	8 1/4



Material: Hot wrought carbon steel bar, quenched and tempered to 365-415 BHN.

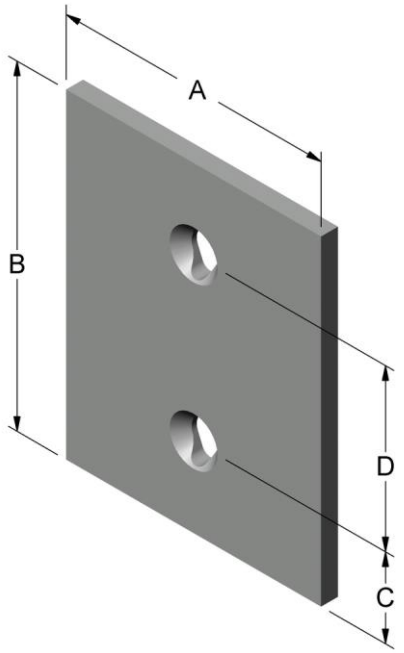
Finish: 85% scale free.

All wear plates flat within .025” TIR.

For application, see section 4-C.

Type-2 Column Wear Plates (Bolt Only or Bolt and Weld)

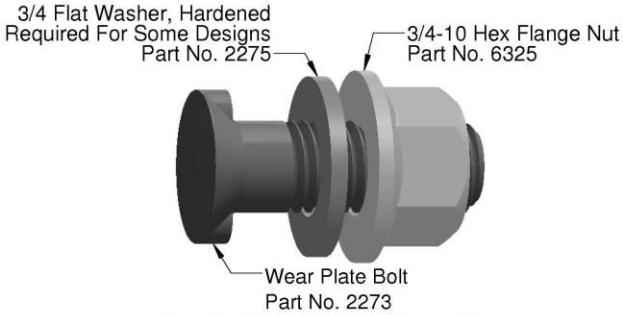
Wear Plate Part Number By Thickness				Dimensions			
3/8	7/16	1/2	9/16	A	B	C	D
5706-201				4 1/2	8 1/2	1 5/8	5 1/4
5706-202				5	8 1/2	1 5/8	5 1/4
5706-203		5708-202		5	8 3/4	1 3/4	5 1/4
5706-218				5	8 3/4	1 61/64	3 43/64
5706-204	5707-201	5708-203	5709-201	5 1/2	8 1/2	1 5/8	5 1/4
5706-205		5708-204		5 1/2	8 3/4	1 3/4	5 1/4
5706-213				6	7 3/4	1 1/4	5 1/4
5706-210		5708-209		6	8 11/16	1 23/32	5 1/4
5706-211				6	8 15/16	1 27/32	5 1/4
5706-208		5708-207		6 1/2	9 1/4	2	5 1/4
5706-212		5708-210		7 1/2	7 1/2	1 1/8	5 1/4
5706-215				7 1/2	7 3/4	1 1/4	5 1/4
5706-216				7 1/2	8 1/16	1 13/32	5 1/4
5706-209		5708-208		7 1/2	8 5/16	1 17/32	5 1/4
5706-217				7 1/2	8 9/16	1 21/32	5 1/4
5706-207		5708-206		7 1/2	8 15/16	1 27/32	5 1/4
5706-206		5708-205		7 1/2	9 7/16	2 3/32	5 1/4
5706-214		5708-201		7 1/2	9 7/16	2 11/32	4 3/4
		5708-212		7 1/2	9 15/16	2 11/32	5 1/4
		5708-213		10	10	2 5/8	4 3/4



Material: Hot wrought carbon steel bar, quenched and tempered to 365-415 BHN.

Finish: 85% scale free.

All wear plates flat within .025" TIR.



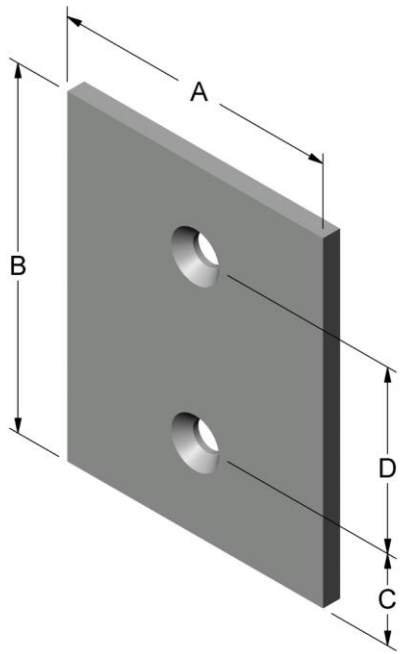
Typical Column Wear Plate Mounting Hardware

For application, see section 4-C

Type-3 Column Wear Plates (Bolt Only or Bolt and Weld)

Wear Plate Part Number By Thickness				Dimensions			
3/8	7/16	1/2	9/16	A	B	C	D
5706-301				4 1/2	8 1/2	1 5/8	5 1/4
5706-327				5	7 3/4	1 1/4	5 1/4
5706-302	5707-310	5708-302	5709-301	5	8 1/2	1 5/8	5 1/4
5706-328	5707-314	5708-303		5	8 3/4	1 3/4	5 1/4
5706-322				5	9	1 7/8	5 1/4
	5707-303			5 1/2	8	1 3/8	5 1/4
5706-303	5707-307	5708-304	5709-302	5 1/2	8 1/2	1 5/8	5 1/4
5706-304	5707-305	5708-305	5709-309	5 1/2	8 3/4	1 3/4	5 1/4
5706-315				5 1/2	9	1 7/8	5 1/4
			5709-311	5 1/2	10	2 1/4	5 1/2
5706-320				5 1/2	10 3/8	2 9/16	5 1/4
5706-324				6	7 3/4	1 1/4	5 1/4
5706-334				6	8	1 3/8	5 1/4
5706-318	5707-308	5708-309	5709-306	6	8 7/16	1 19/32	5 1/4
5706-310		5708-308		6	8 11/16	1 23/32	5 1/4
5706-311				6	8 15/16	1 27/32	5 1/4
5706-323	5707-312			6	9	1 7/8	5 1/4
5706-307	5707-316	5708-318	5709-310	6 1/2	9 1/4	2	5 1/4
5706-330				7 1/2	7 1/4	1	5 1/4
5706-314	5707-306	5708-311		7 1/2	7 1/2	1 1/8	5 1/4
5706-312		5708-313		7 1/2	7 3/4	1 1/4	5 1/4
	5707-301			7 1/2	8	1 3/8	5 1/4
5706-317	5707-309	5708-310	5709-303	7 1/2	8 1/16	1 13/32	5 1/4
5706-309	5707-302	5708-307	5709-308	7 1/2	8 5/16	1 17/32	5 1/4
5706-319	5707-315	5708-312		7 1/2	8 1/2	1 5/8	5 1/4
5706-313		5708-317		7 1/2	8 9/16	1 21/32	5 1/4
5706-306	5707-311	5708-314	5709-307	7 1/2	8 15/16	1 27/32	5 1/4
5706-329				7 1/2	9 3/16	1 31/32	5 1/4
5706-305	5707-304	5708-306	5709-304	7 1/2	9 7/16	2 3/32	5 1/4
5706-326	5707-313	5708-301	5709-305	7 1/2	9 7/16	2 11/32	4 3/4
		5708-316		7 1/2	9 15/16	2 11/32	5 1/4
5706-308				8	9 7/16	2 3/32	5 1/4
5706-325				8	9 15/16	2 11/32	5 1/4
5706-332		5708-319		8 1/2	9 7/16	2 3/32	5 1/4
		5708-325		8 1/2	10	2 5/8	4 3/4
		5708-324		8 1/2	10 7/16	2 27/32	4 3/4
5706-333				8 15/16	9 7/16	2 3/32	5 1/4
5706-331				9	9 1/8	1 15/16	5 1/4
5706-335	5707-318	5708-322	5709-313	10	7 7/8	1 11/16	4 1/2
5706-316	5707-317	5708-321	5709-312	10	8 1/2	1 5/8	5 1/4
5706-338				10	9	1 7/8	5 1/4
5706-336	5707-319	5708-323	5709-314	10	9 1/2	2 1/8	5 1/4
		5708-320		10	10	2 5/8	4 3/4

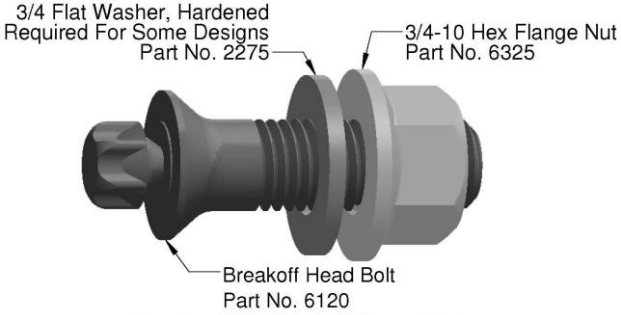
For application, see section 4-C



Material: Hot wrought carbon steel bar, quenched and tempered to 365-415 BHN.

Finish: 85% scale free.

All wear plates flat within .025" TIR.

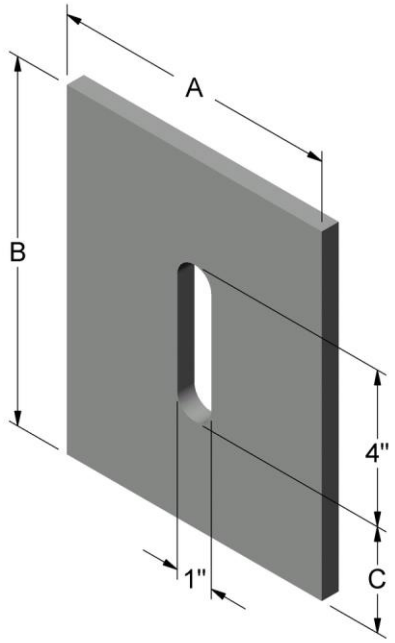


Typical Column Wear Plate Mounting Hardware

Wabtec, Standard Car Truck
6400 Shafer Court – Ste 450, Rosemont, Illinois 60018, U.S.A.
Phone (847) 692-6050 Email: SCTTechCustomerService@Wabtec.com

Type-4 Column Wear Plates (Weld Only - Slotted)

Wear Plate Part Number By Thickness		Dimensions		
3/8	1/2	A	B	C
5706-402	5708-402	5	8 1/2	2 1/4
5706-403	5708-403	5 1/2	8 1/2	2 1/4
5706-404	5708-404	5 1/2	8 3/4	2 3/8
5706-406	5708-414	7 1/2	8 15/16	2 15/32
5706-405	5708-406	7 1/2	9 7/16	2 23/32



Material: Hot wrought carbon steel bar, quenched and tempered to 365-415 BHN.

Finish: 85% scale free.

All wear plates flat within .025” TIR.

For application, see section 4-C.

Column Wear Plates

Application Procedures

- Type-1 Column Wear Plates Weld Only Application
- Type-2 & Type-3 Column Wear Plates Bolt Only Application
- Type-2 & Type-3 Column Wear Plates Bolt and Weld Application
- Type-4 Column Wear Plates Weld Only Application

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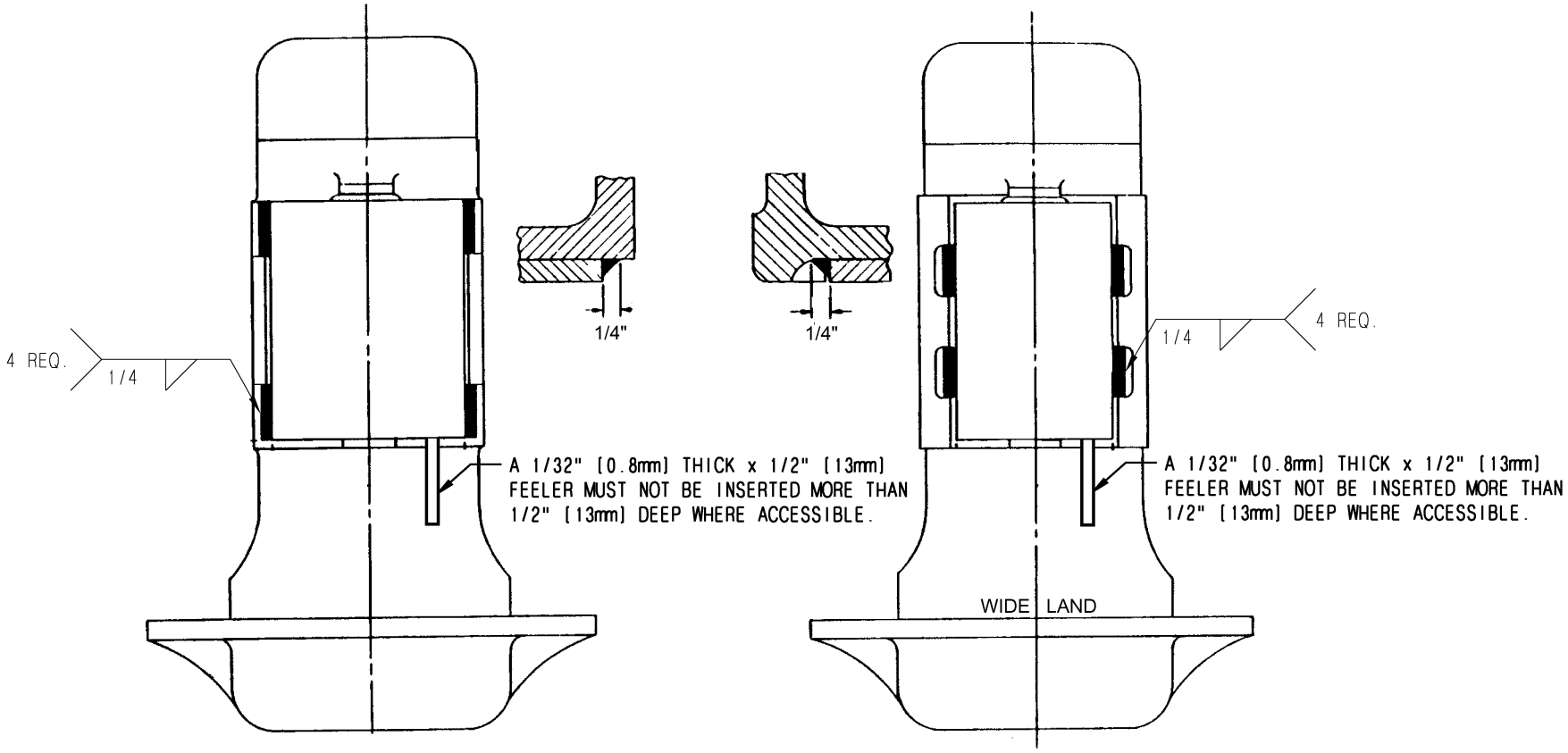
Phone (847) 692-6050 Email: SCTTechCustomerService@Wabtec.com

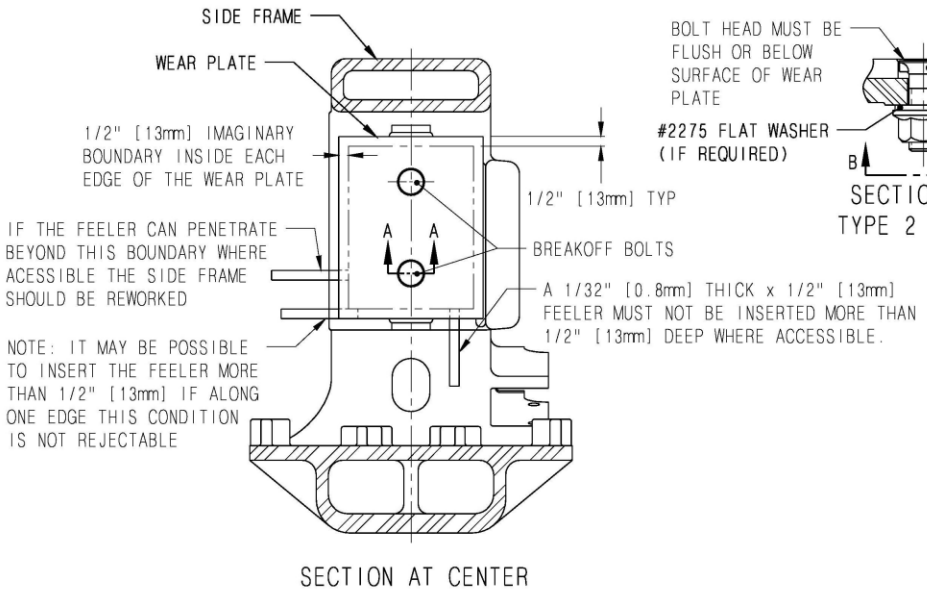
Type-1 Column Wear Plates Weld Only Application

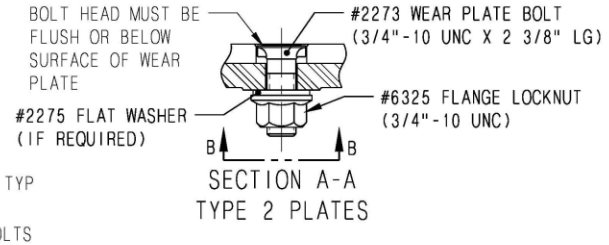


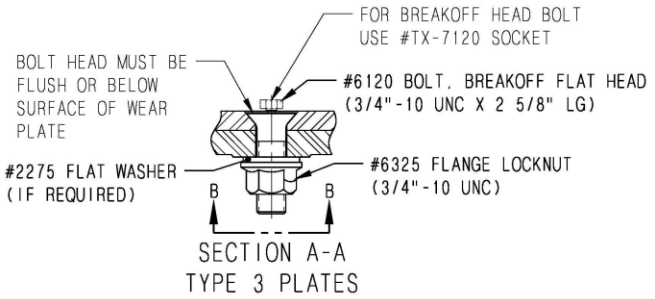
Notes:

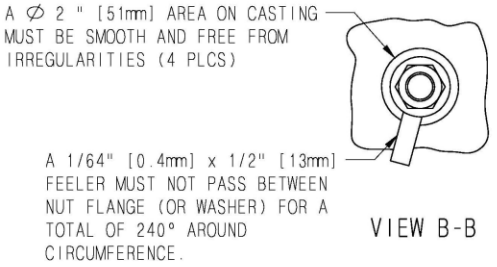
1. No preheat is necessary to either the side frame or wear plates. However, the surfaces to be welded must be dry and above 50°F.
2. Force wear plate tightly against column during the welding operation.
3. Position side frame for downhand welding.
4. Use AWS electrode E-7018 for “B” grade material, E-8018 for “B+” grade material, and E-9018 for “C” grade material or higher tensile rod of a size consistent with good practice.
5. Use as low a current as possible.
6. Welds shall be built from the middle of plate and worked toward the ends.
7. Weld must not project beyond wear plate face.
8. Welding to be done in a workmanlike manner, be homogenous, free of gas or foreign inclusions.
9. Apply a 1/32" [0.8mm] feeler between the column surface and the wear plate per instructions in view above.
10. All wear plates must be free of paint, mill scale, oil, and other contaminates before and after application.

Type-2 & Type-3 Column Wear Plates Bolt Only Application





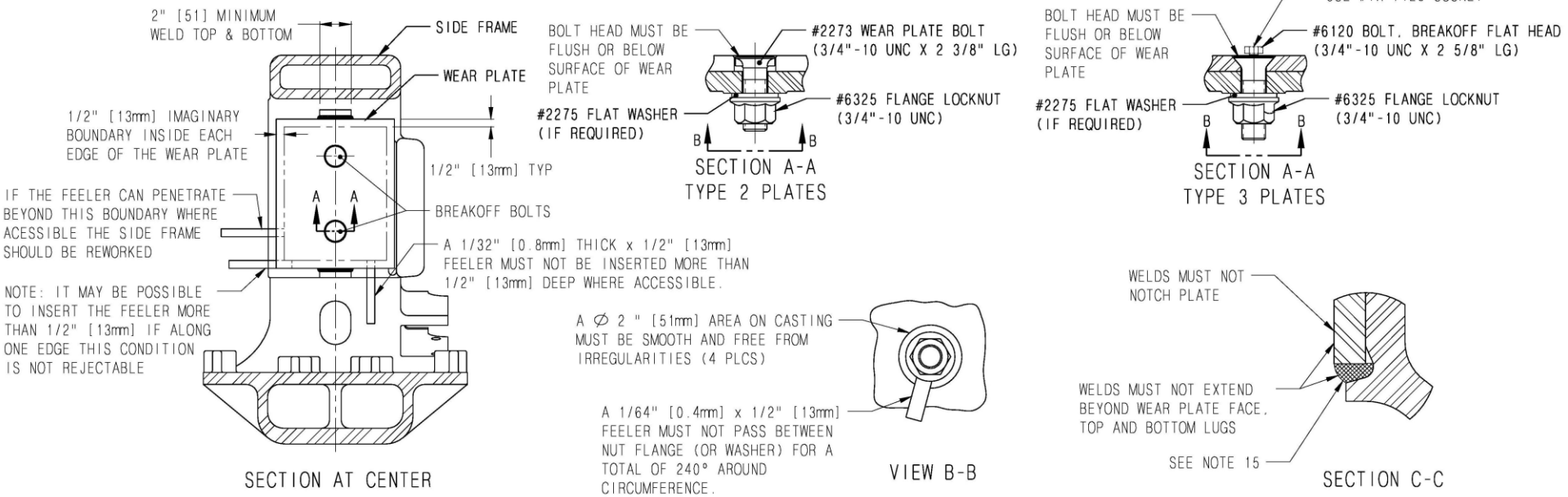




Notes:

1. Verify that the column bolt holes are open and that the application bolts will pass freely through the holes. If the bolt does not fit, the hole must be opened.
2. Visually examine each wear plate and column surface to ensure there are no obvious defects. Column surfaces must be true, smooth, free of foreign material, and flat to approximately 1/32" [0.8mm] concave. Wear plates must be free of paint before and after application.
3. Place the wear plate into position on the column and insert two bolts through the wear plate and column holes. Place a washer onto the bolt if applicable. Thread a nut onto each bolt and hand tighten.
4. Position the wear plate such that the bolts appear to be perpendicular to the column face.
5. Type 3 Plates: While holding one of the nuts with a socket wrench, apply a pneumatic impact wrench (capable of 250 ft-lb torque) to the corresponding bolt. Tighten first bolt and nut until snug (do not break off drive stud). Tighten second bolt and nut until break off drive head has sheared off. Go back to first bolt and nut and continue tightening until break off drive head has sheared off.
6. Type 2 Plates: Set a pneumatic impact wrench (capable of 250 ft-lb torque) to 180 ft-lb and apply to one of the nuts, tighten until snug. Tighten second nut to torque setting and repeat on first nut.
7. A torque/check with torque wrench should result in a 180 ft-lb or minimum value of 160 ft-lb. Fasteners less than 160 ft-lb shall be torqued to 180 ft-lb.
8. If a bolt assembly spins and will not tighten, the plate must be removed for inspection and re-application.
9. Bolt heads must be flush or below surface of wear plate, and a minimum of two full threads must extend beyond the nut.
10. Apply a 1/64" [0.4mm] feeler between the column back surface and the nut flange (or washer) per instructions in view B-B.
11. Apply a 1/32" [0.8mm] feeler between the column surface and the wear plate per instructions in Section at Center.
12. AAR recommends 28,000 lb. min. clamping load for breakoff head bolts per standard S-3003.
13. Do not use lubricant on the bolts.
14. All wear plates must be free of paint, mill scale, oil, and other contaminates before and after application.

Type-2 & Type-3 Column Wear Plates Bolt and Weld Application



Notes:

1. Verify that the column bolt holes are open and that the application bolts will pass freely through the holes. If the bolt does not fit, the hole must be opened.
2. Visually examine each wear plate and column surface to ensure there are no obvious defects. Column surfaces must be true, smooth, free of foreign material, and flat to approximately 1/32" [0.8mm] concave. Wear plates must be free of paint before and after application.
3. Place the wear plate into position on the column and insert two bolts through the wear plate and column holes. Place a washer onto the bolt if applicable. Thread a nut onto each bolt and hand tighten.
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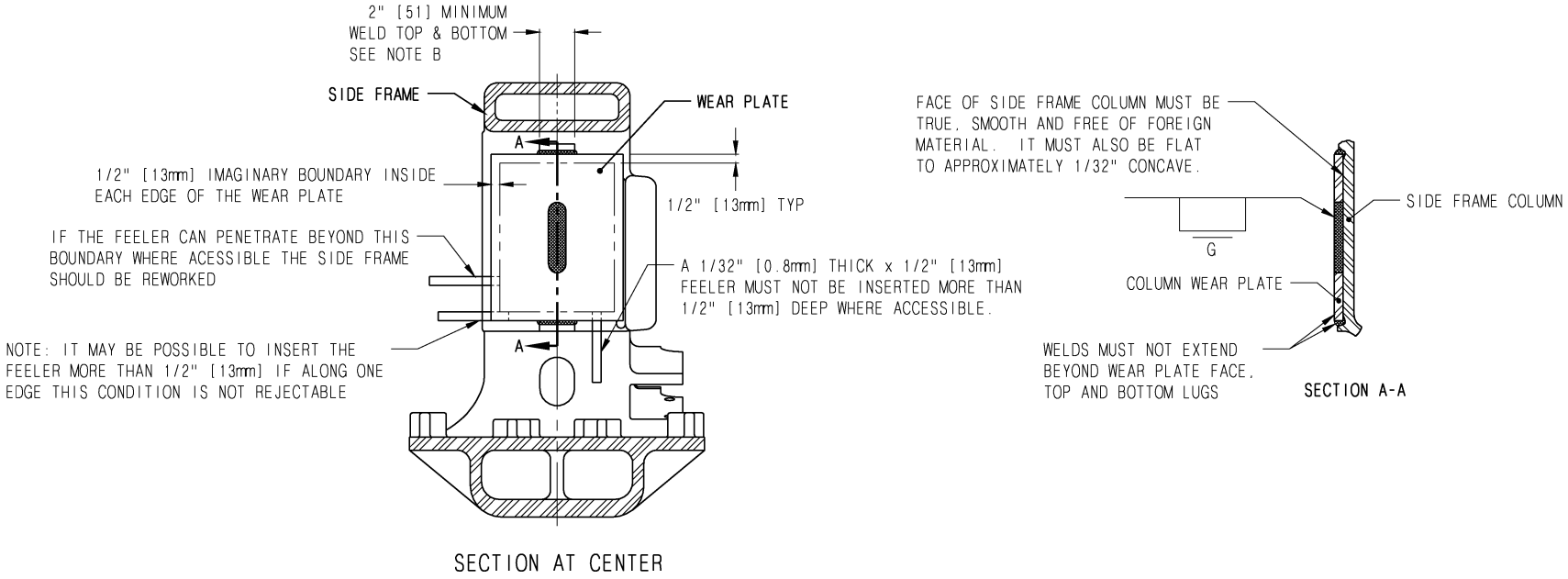
7. A torque/check with torque wrench should result in a 180 ft-lb or minimum value of 160 ft-lb. Fasteners less than 160 ft-lb shall be torqued to 180 ft-lb.
8. If a bolt assembly spins and will not tighten, the plate must be removed for inspection and re-application.
9. Bolt heads must be flush or below surface of wear plate, and a minimum of two full threads must extend beyond the nut.
10. Apply a 1/64" [0.4mm] feeler between the column back surface and the nut flange (or washer) per instructions in view B-B.
11. Apply a 1/32" [0.8mm] feeler between the column surface and the wear plate per instructions in Section at Center.
12. AAR recommends 28,000 lb. min. clamping load for breakoff head bolts per standard S-320.
13. Do not use lubricant on the bolts.
14. Position side frame for down hand welding.
15. Use AWS electrode E-7018 or higher tensile rod of a size consistent with good practice and a current as low as possible.
16. Apply weld between plate and lugs at top and bottom to fill in the clearances. Fusion to plate and lug required over 2" minimum weld length. Fusion to vertical surface of column is not necessary and is not desired. Welds must not extend beyond the wear plate surface.
17. Weld is not intended for securement, rather as a compression-filler weld between wear plate and lugs.
18. Weld undercut limit of 1/16" per AWS D15.1 Class 3.
19. All wear plates must be free of paint, mill scale, oil, and other contaminates before and after application.

Type-4 Column Wear Plates Weld Only Application



Notes:

1. No preheat is necessary to either the side frame or wear plates. However, the surfaces to be welded must be dry and above 50°F.
2. Force wear plate tightly against column during the welding operation.
3. Position side frame for down hand welding.
4. Use AWS electrode E-7018 for “B” grade material, E-8018 for “B+” grade material, and E-9018 for “C” grade material or higher tensile rod of a size consistent with good practice.
5. Use as low a current as possible.
6. Welds shall be built from the middle of plate and worked toward the ends.
7. Weld must not project beyond wear plate face.
8. Welding to be done in a workmanlike manner, be homogenous, free of gas or foreign inclusions.
9. Welds between plate and lugs at top and bottom are not intended for securement, rather as a compression-filler weld between the wear plate and lugs.
10. Apply a 1/32" [0.8mm] feeler between the column surface and the wear plate per instructions in view above.
11. All wear plates must be free of paint, mill scale, oil, and other contaminates before and after application.