

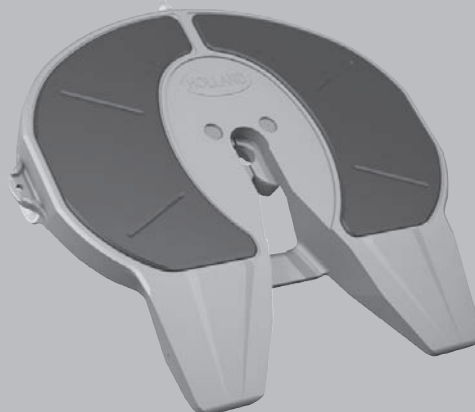
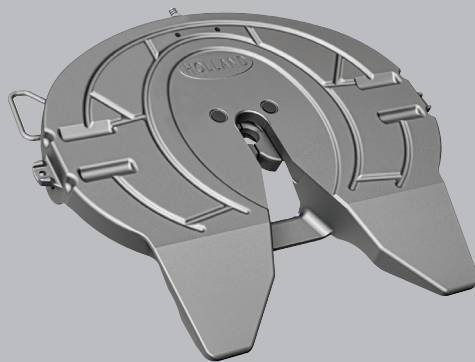


SAF-HOLLAND Group

Owners Manual

FW351 Fifth Wheel FW331 Low Lube Fifth Wheel

- Operation
- Maintenance Procedures
- Comprehensive Warranty
- Mounting Instructions





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Notes, Cautions and Warnings

You must read and understand all of the safety procedures presented in this manual before starting any work on the SAF-HOLLAND product.

Proper tools must be used to perform the maintenance and repair procedures described in this manual. Many of these procedures require special tools.

Throughout this manual, you will notice the terms "NOTE", "IMPORTANT", "CAUTION", and "WARNING" followed by important product information. So that you may better understand the manual, those terms are as follows:

NOTE: Includes additional information to enable accurate and easy performance of procedure.

IMPORTANT: Includes additional information that if not followed could lead to hindered product performance.

CAUTION

Used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, may result in property damage.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Fifth Wheel Design and Intended Use

1. For pulling trailers with standard AS/NZS 4968 compliant kingpins which are in good condition and securely mounted or locked in position in the trailer.
2. For on-highway hauling applications.
3. Within the capacities stated in SAF-HOLLAND literature.
4. As recommended in SAF-HOLLAND literature (available from www.safholland.com.au).

Holland Fifth Wheels are NOT Designed or Intended For

1. Use with non-AS/NZS 4968 compliant kingpins, such as kingpins which are bent, improper size or dimensions, not secured to maintain AS/NZS 4968 configuration, or which are installed in warped trailer bolster plates.
2. Tow-away operations which damage or interfere with the proper operation of the fifth wheel.
3. The attachment of lifting devices.
4. The transport of loads in excess of rated capacity.
5. Applications other than recommended.

Note:

Any modification or alteration of original equipment without prior written approval from SAF-HOLLAND (Aust) Pty Ltd will automatically void the warranty for the modified product.

SAF-HOLLAND (Aust) Pty Ltd do not accept any liability for damage or consequence that the modification may cause.

W A R N I N G !

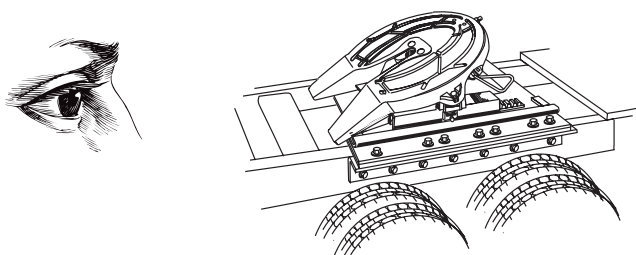
THE USE OF OTHER THAN GENUINE SAF-HOLLAND OR APPROVED PARTS COULD CONTRAVENE THE REQUIREMENTS OF THE ADR AND YOUR DUTY OF CARE FOR THE SAFETY OF THE OPERATOR. IT MAY ALSO VOID YOUR WARRANTY

⚠ WARNING

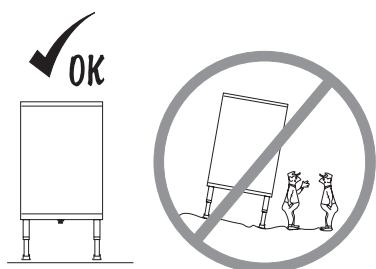
You must read and understand the following instructions before operating your fifth wheel. Failure to follow all of the important operating procedures contained in these instructions may result in a hazardous condition or cause a hazardous condition to develop. These instructions apply to the proper operation of your fifth wheel only. There are other important checks, inspections, and procedures not listed here that are necessary, prudent, and/or required by law.

Coupling Procedures

1. Inspect the fifth wheel mounting.

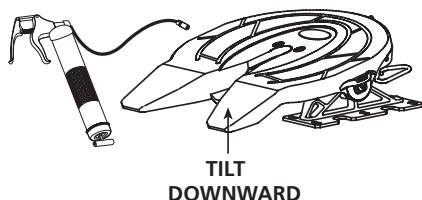


- Tighten loose fasteners
 - Replace missing fasteners
 - Repair/replace cracked components
 - If you have a FW331 fifth wheel, confirm that the lube plates are in place and firmly attached.
 - If you have a sliding fifth wheel, make sure both plungers are fully engaged (refer to Fifth Wheel Slide Adjustment instructions in this manual).
2. Make sure coupling area is flat, level and clear of persons and obstacles.

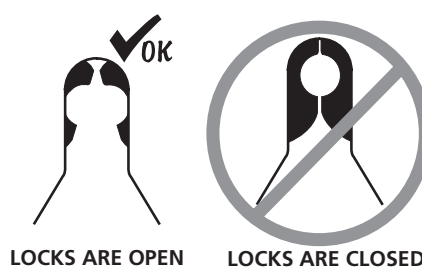


3. For FW351 - Lubricate the fifth wheel-to-trailer contact surface with grease. Tilt the ramps down.

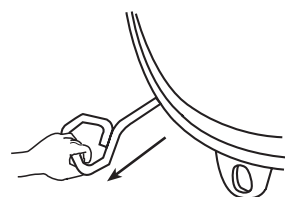
For FW331 - The FW331 Low Lube fifth wheel is constructed with replaceable non greasable top plate and foot pocket inserts. Grease is only required on the locking mechanism, a grease nipple is provided for periodic lubrication of the kingpin and jaw contact area without uncoupling the vehicle. Tilt the ramps down.



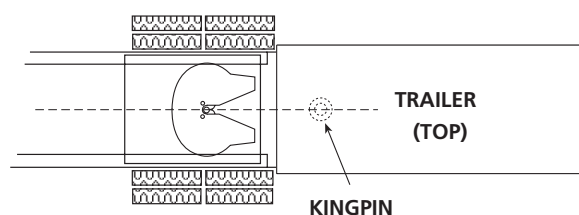
4. Make sure the locks are open. To open locks, pull release handle.



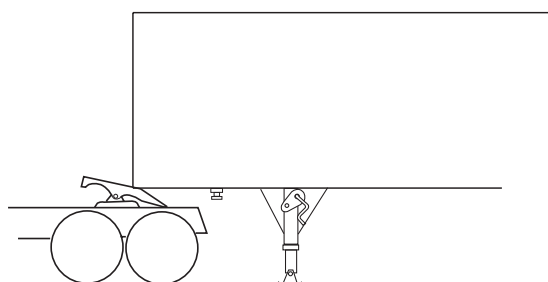
If locks are closed, pull release handle all the way out.



5. Centre kingpin with fifth wheel.

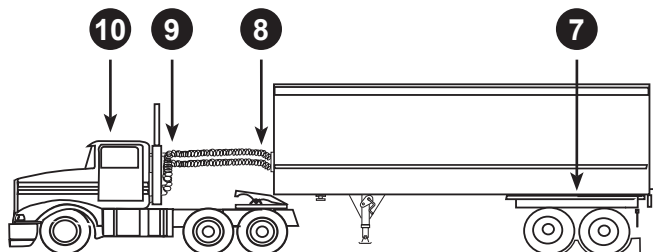


6. Back truck close to trailer and STOP.

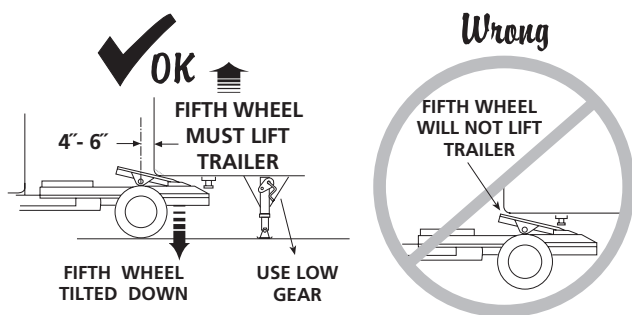


Coupling Procedures *continued*

7. Chock trailer wheels.
8. Connect brake lines and light cord.
9. Support slack in lines to prevent interference.
10. Set trailer brakes.



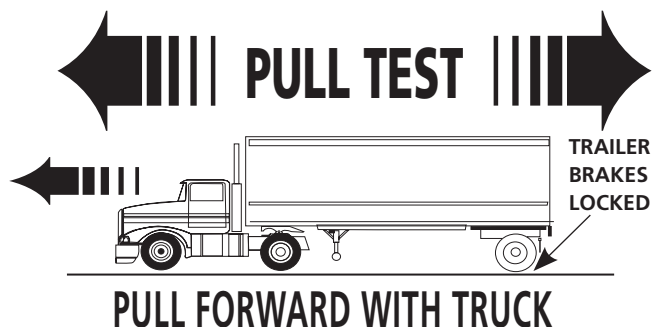
11. Adjust trailer height so fifth wheel will lift trailer. Trailer should contact fifth wheel 100mm-150mm behind fifth wheel foot pin.



⚠ WARNING Attempting to couple with the trailer at an improper height may result in a false or improper coupling, allowing tractor and trailer separation, which, if not avoided, could result in death or serious injury.

12. Slowly back into trailer.

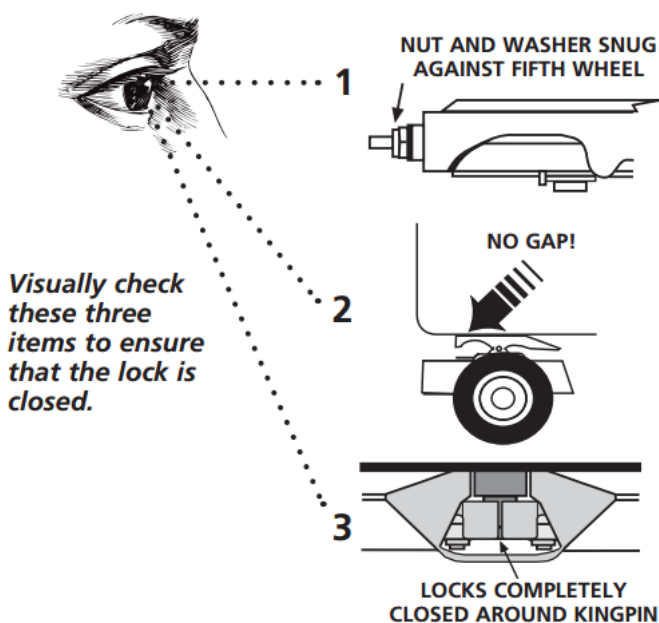
13. Do a pull test.



⚠ WARNING The coupling procedure is not complete without a visual inspection. You must get out of the truck and verify that the fifth wheel is properly coupled to the kingpin as shown below.

Your FW 351/ 331 is equipped with a visual lock indicator which provides the driver with a clear visual indicator that the fifth wheel lock mechanism is properly closed.

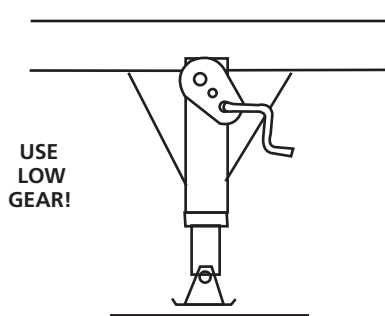
14. Get out of the truck.
Visually check that the lock is closed.



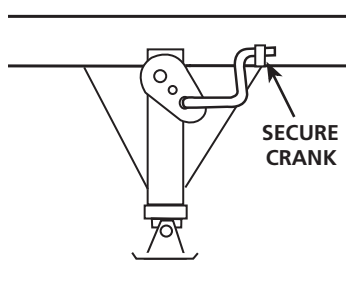
⚠ WARNING If you do not obtain a proper couple, repeat the coupling sequence. Do not use any fifth wheel that fails to operate properly.

Coupling Procedures *continued*

15. Retract landing gear until pads come off the ground.



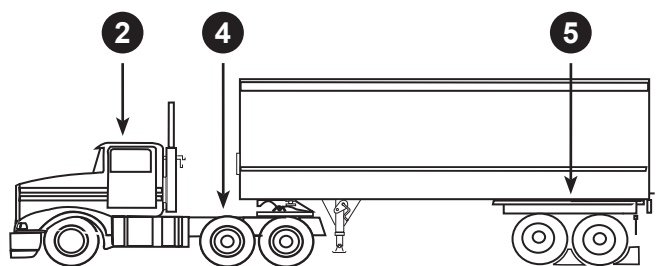
16. Switch to high gear, fully retract, and secure crank handle.



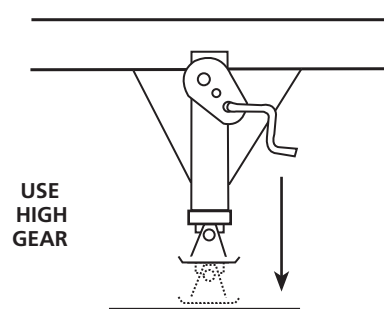
17. Re-check brake lines and light cord. Remove wheel chocks, continue with pre-trip inspection.

Uncoupling Procedures

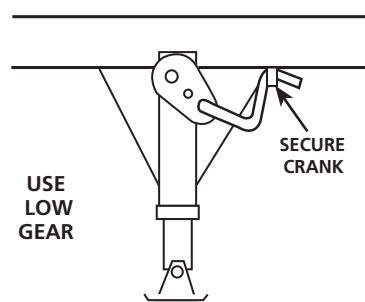
1. Position truck and trailer on firm, level ground clear of obstacles and persons.
2. Set trailer brakes.
3. Slowly back truck tightly against trailer.
4. Set truck brakes.
5. Chock trailer wheels.



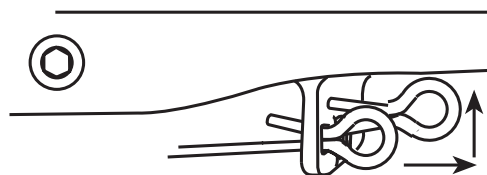
6. Lower landing gear until pads just touch the ground.



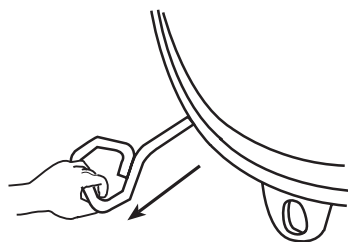
7. Switch to low gear and crank an additional 4-8 turns.



8. If equipped, pull secondary lock handle and hook on casting.



9. Pull primary release handle.



10. Disconnect brake lines and light cord.
11. Release truck brakes and slowly drive away from trailer.

Fifth Wheel Slide Adjustments

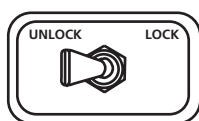
1. Position truck and trailer in a straight line on level ground.
2. Lock the trailer brakes.

CAUTION

The trailer must be stopped and the trailer brakes locked to prevent damage to the truck or trailer by uncontrolled sliding of the fifth wheel.

3. Release slide locking plungers.

AIR OPERATED



Move cab switch to unlock position.

MANUAL SLIDE



Pull release lever, lift up and hook in place.

4. Visually check that both plungers are fully extended as shown in figure 4a.

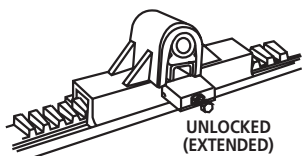


Figure 4a

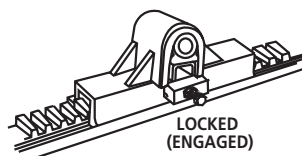


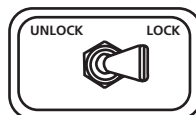
Figure 4b

NOTE: If the plungers do not release, raise the trailer to relieve pressure on the plungers. This will allow the fifth wheel to slide easier.

5. Slowly drive the truck forward or backward to position the fifth wheel.
6. Re-engage the slide locking plungers. Verify that both plungers have fully engaged.

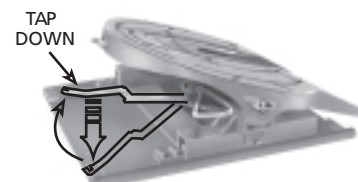
NOTE: Retract landing gear if lowered.

AIR OPERATED



Move cab switch to lock position.

MANUAL SLIDE



Trip the release lever by tapping it downward as shown and allowing it to spring back.

WARNING

Do not operate the vehicle if the plungers are not fully engaged and landing gear fully retracted, as damage to the truck, trailer, and landing gear may occur.

⚠ WARNING

You must read and understand the following instructions before operating your fifth wheel.

Failure to follow all of the important maintenance procedures contained in these instructions may result in a hazardous condition or cause a hazardous condition to develop.

All maintenance must be performed by a qualified person using proper tools and safe procedures.

All maintenance must be performed while the truck is uncoupled from the trailer.

As-Needed Lubrication

Use water resistant lithium-base grease.

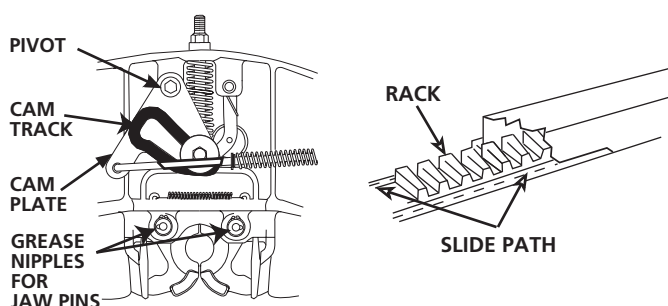
FW351



FW331



FW351/331



Grease nipple must be lubricated regularly on both models.

Lubricate the cam track and pivot with a light oil or diesel oil.

On sliding fifth wheels, spray a light oil or diesel oil on the rack and slide path.

⚠ WARNING

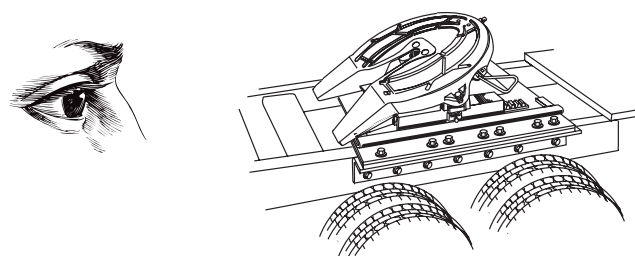
Do not use any fifth wheel which does not operate properly. If your fifth does not operate properly, contact your nearest SAF-HOLLAND representative for assistance.

Required Inspections and Adjustments

Perform the following every 3 months or 50,000kms whichever comes first. Thoroughly steam clean all components before inspecting or adjusting.

General Fifth Wheel Inspection

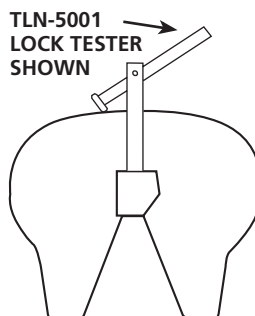
1. Inspect fifth wheel mounting and fifth wheel assembly.
 - Check fastener torque
 - Replace missing or damaged bolts
 - Replace bent, worn or broken parts
 (Use only genuine SAF-HOLLAND parts.)



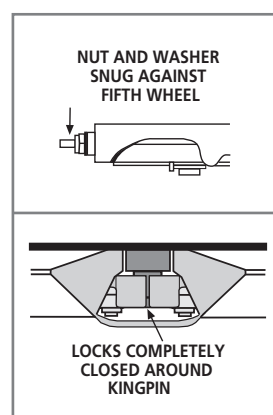
Inspection – Locking Mechanism

Verify operation by opening and closing locks with Holland Kingpin Lock Tester model no. TLN-5001.

TLN-5001 LOCK TESTER SHOWN



PROPERLY CLOSED FIFTH WHEEL



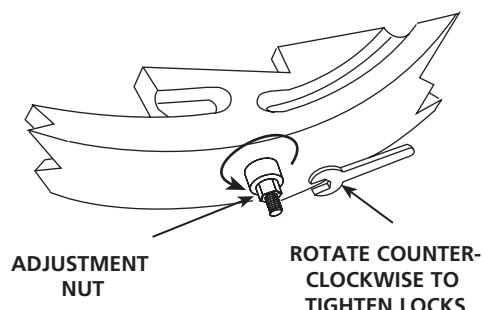
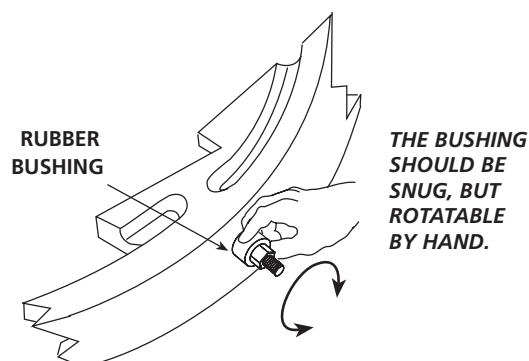
Adjustment – Locking Mechanism

1. Close the locks using a Holland lock tester.
2. Check the release handle – it must be fully retracted.
3. Rotate the rubber bushing that is located between the adjustment nut and the casting.
4. If the bushing is tight, rotate the nut on the yoke shank counter-clockwise until the bushing is snug, but rotatable by hand.
5. Verify the adjustment by locking and unlocking several times using the Lock Adjustment Tool; check for proper locking.
6. If there is a large amount of fore and aft movement with the adjustment tool when verifying adjustment, check to make sure the lock is fully engaged.

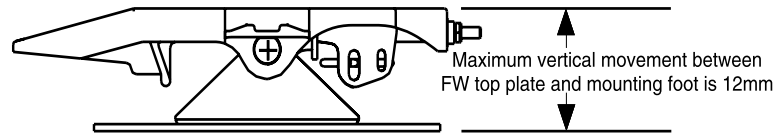
⚠ WARNING

Improper adjustment can cause improper locking of the fifth wheel. An improperly coupled tractor and trailer may separate while in use which, if not avoided, could result in death or serious injury.

If your fifth wheel does not operate properly, **DO NOT USE IT!** Repeat the adjustment procedures or contact your nearest SAF-HOLLAND representative for assistance.



Vertical Movement Of Top Plate



To determine the amount of movement between the fifth wheel top plate and the mounting foot, place a bar beneath the pivot pin lobe on the casting and slowly apply pressure to the bar to take up the free clearance only. It is important to note that the pivot bush is constructed from a soft medium and will compress, do not compress the bush when taking your measurement.

Wear Limits

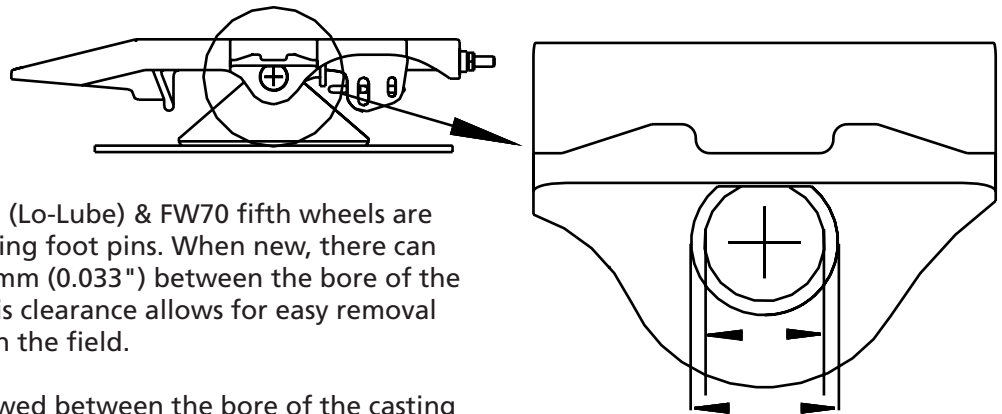
Fifth wheel top plate to fifth wheel rocker feet (mounting brackets)
Horizontal movement - 3mm forward and rear of centre

Fifth wheel top plate inner foot pocket wear - 3mm
mounting bracket wear - 3mm

Single row ballrace - Vertical Lift (axial movement) - 2mm
Horizontal (radial movement) - 3mm

Double row ballrace - Vertical Lift (axial movement) - 3.5mm
Horizontal (radial movement) - 3mm

Pivot Pin & Bore

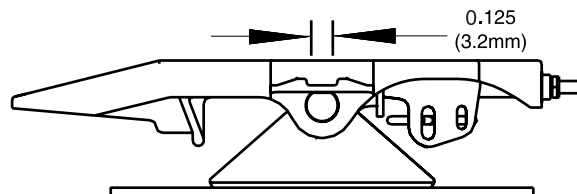


Holland Hitch FW351, FW342 (Lo-Lube) & FW70 fifth wheels are manufactured with loose fitting foot pins. When new, there can be a clearance of up to 0.85 mm (0.033") between the bore of the casting and the pivot pin. This clearance allows for easy removal and fitment of the foot pin in the field.

The maximum clearance allowed between the bore of the casting and the pivot pin is 3.2 mm (0.125").

3.2 mm (0.125") Maximum clearance
between casting bore and a new foot pin.

Horizontal Movement



If the horizontal (fore & aft) movement between the fifth wheel locking jaws and a Holland lock tester exceeds 3.2mm (0.125") the fifth wheel locking jaws require adjustment.

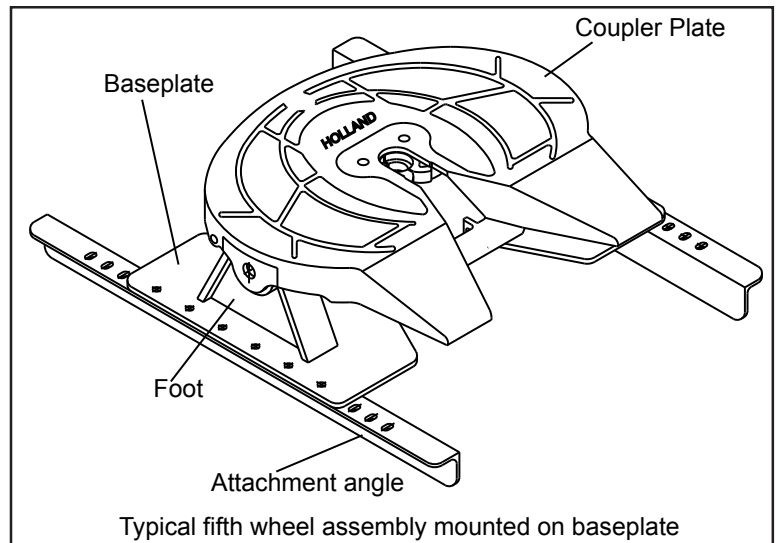
If the locking jaws cannot be adjusted to the point where resistance is felt when rotating the lock tester, new lock jaws need to be fitted.

SUITS ALL HOLLAND FIFTH WHEEL ASSEMBLIES

1. INTRODUCTION

This information sheet is compiled to give advice on the mounting requirements for fifth wheels and turntable assemblies and is based on Australian Standard AS/NZS 4968.2.2003 "Testing and installation of fifth wheel and associated equipment".

The advice given here is considered to be the minimum requirement and any person involved in articulated vehicle maintenance or construction should obtain a copy of the current standard available from Standards Australia.



- 1.1 This document covers most of the common methods used for the mounting of fifth wheels. Some manufacturers provide specifications and/or fit assemblies as original equipment. The following requirements apply to fifth wheels which are not fitted as original Equipment by the manufacturer.

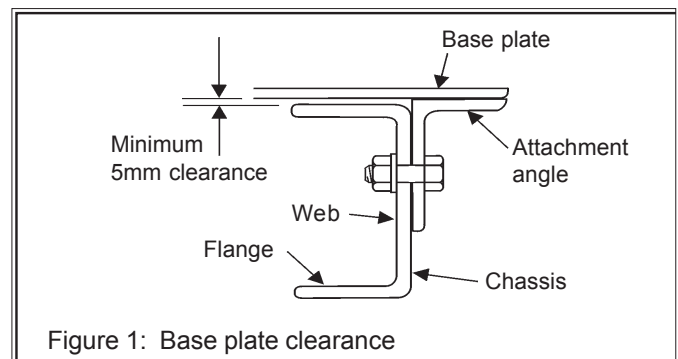
2. INSTALLATION OF FIXED ASSEMBLIES

- 2.1 The fifth wheel must be mounted on either a base plate or a sub-chassis.

- 2.2 There must be at least 5mm clearance between the base plate/sub chassis and chassis flange (Figure 1).

- 2.3 Base plates made of flat plate must be at least 12mm thick.

- 2.4 The fifth wheel assembly must be bolted to the web of the chassis (usually using attachment angles or fish plates).



2.5 There must be at least four M20 (3/4") or six M16 (5/8") bolts per side. It is recommended that M20 bolts be used with chassis having double web thickness and M16 bolts be used on single web thickness. It is preferable to use bolts with fine threads.

2.6 The bolt spacing must be within the range:
M16: 100 to 225mm
M20: 100 to 300mm
(Figure 2)

d = 100mm to 225mm for M16 bolts
d = 100mm to 300mm for M20 bolts

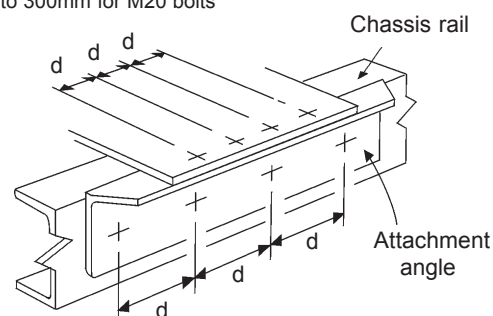


Figure 2: Bolt spacing

2.7 The bolts must be class 8.8 or stronger.
(Figure 3)

2.8 Each bolt must have a nut locked onto it. The locking method must not be a spot of weld, spring washer or a split pin hole drilled through the side of the nut (unless it is a proprietary castellated nut). An acceptable method is to use "Nyloc" nuts or similar self locking nuts.

Manufacturers' reusability limitations on nuts must be observed.

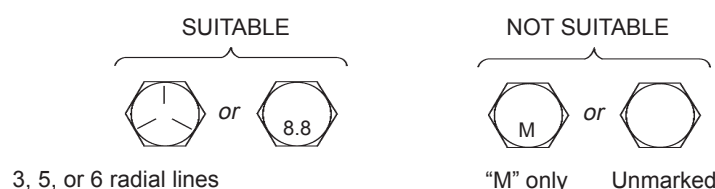


Figure 3: Bolt suitability

Note: SAE grade 5 bolts are acceptable in place of ISO grade 8.8 bolts

2.9 Hardened washers must be used under all nuts (hardened washers usually have three radial tangs on the outer circumference). Tapered shims must be used where appropriate.

2.10 On aluminium alloy chassis, hardened washers must be used under both the nut and bolt head.

2.11 The bolt hole clearance should be no more than 1mm. Good practice is to ream the holes to size.

2.12 It is good practice to install all vertical bolts with the head upper most. This will ensure that if the nut is lost, the bolt will not fall out. The bolt length should be such that the thread portion is not within the grip length. The recommended bolt torque is as per AS/ NZS 4968.2 Table 5.1

Table 5.1 Bolting Requirements

Bolt size	Minimum number of bolts per side	Spacing, mm		Torque, Nm
		Min.	Max.	
M16	6	100	225	180 ± 10
M20	4	100	300	350 ± 20

2.13 U-Bolts or an array of smaller size bolts are not acceptable for attachment of the fifth wheel.

2.14 The base plate must be secured onto the sub-chassis or attachment angle using either bolts or by welding. Bolting is preferred.

2.15 If welded, not less than 450mm (total) of 10mm fillet weld per side is required (Figure 5).

2.16 If intermittent welding is used, the weld runs must be at least 40mm long.

2.17 Any person considering welding as an attachment method should consult the turntable and vehicle manufacturer to determine if any special requirements are necessary. Only competent persons trained in welding techniques should be employed to weld components.

2.18 All welds must be of good quality and not incorporate any undercuts, craters, or cracking.

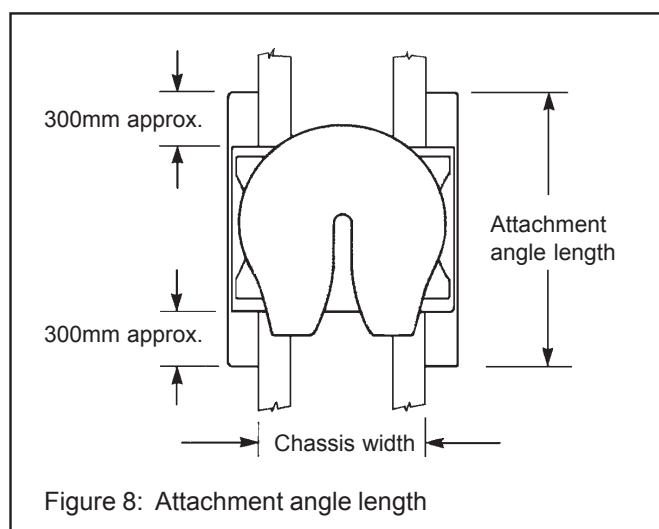
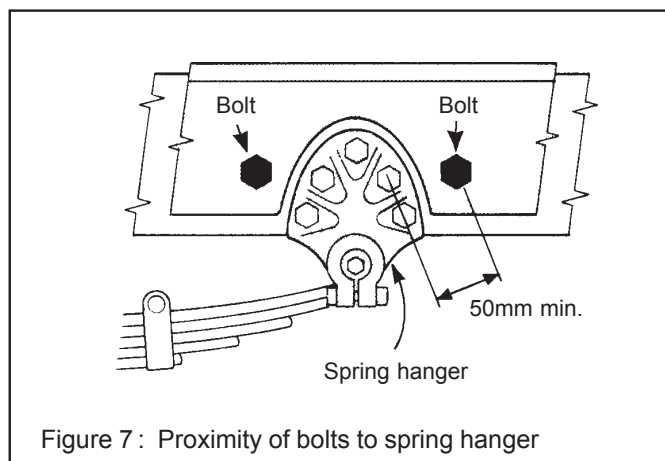
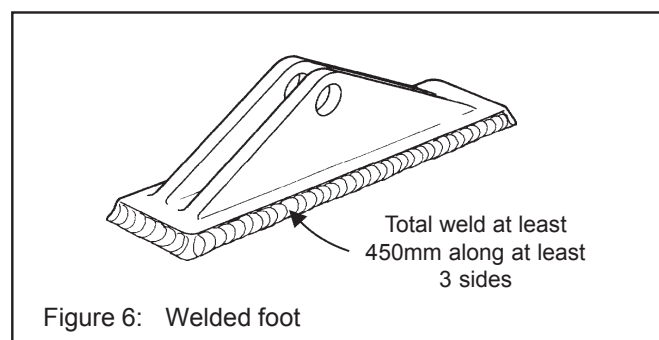
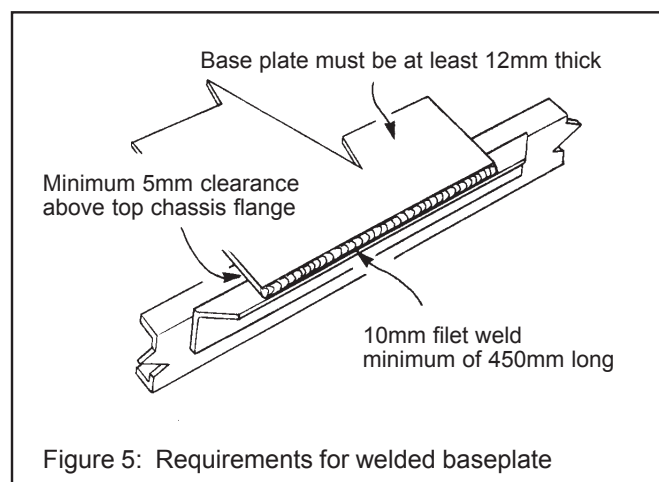
2.19 The fifth-wheel feet shall be secured to the base plate by welding with a 10mm fillet weld along all four sides. (Figure 6).

2.20 If the attachment angle is cut to accommodate a spring hanger, then there must be at least one bolt in close proximity to each side of the cut out. The bolts must not be closer than 50mm to any spring hanger bolt or rivet. (Figure 7).

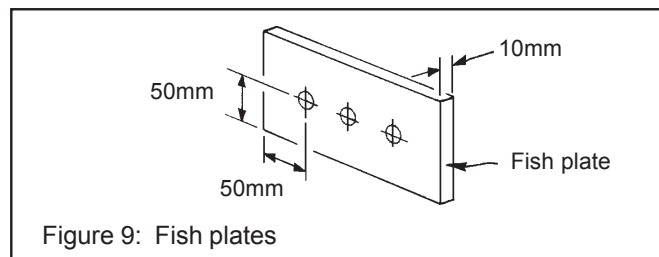
2.21 The length of the attachment angle (or fish plate overall spacing) must be greater than the chassis width, preferably by about 200mm (this avoids abrupt section change and distributes the load more evenly) (Figure 8).

2.22 On attachment angles or fish plates there must be at least one bolt at least 50mm forward of the leading edge of the base plate, and one bolt at least 50mm rearward of the base plate. (Figure 9)

2.23 Attachment angles used must have the minimum dimensions of 100 x 75 x 10mm (4"x3"x3/8").



- 2.24 Fish plates or check plates must be a minimum of 10mm thick and any bolt hole centreline must not be closer than 50mm from any edge. (Figure 9)



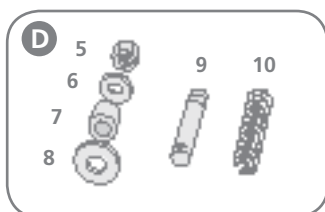
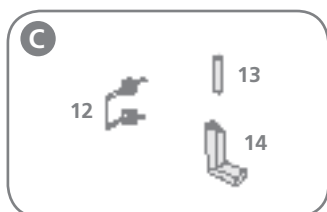
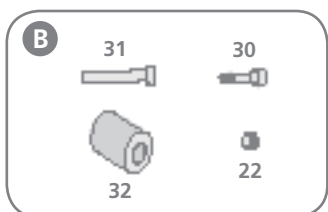
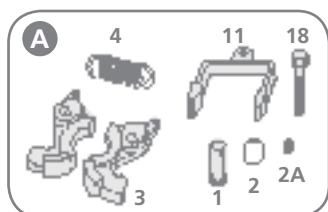
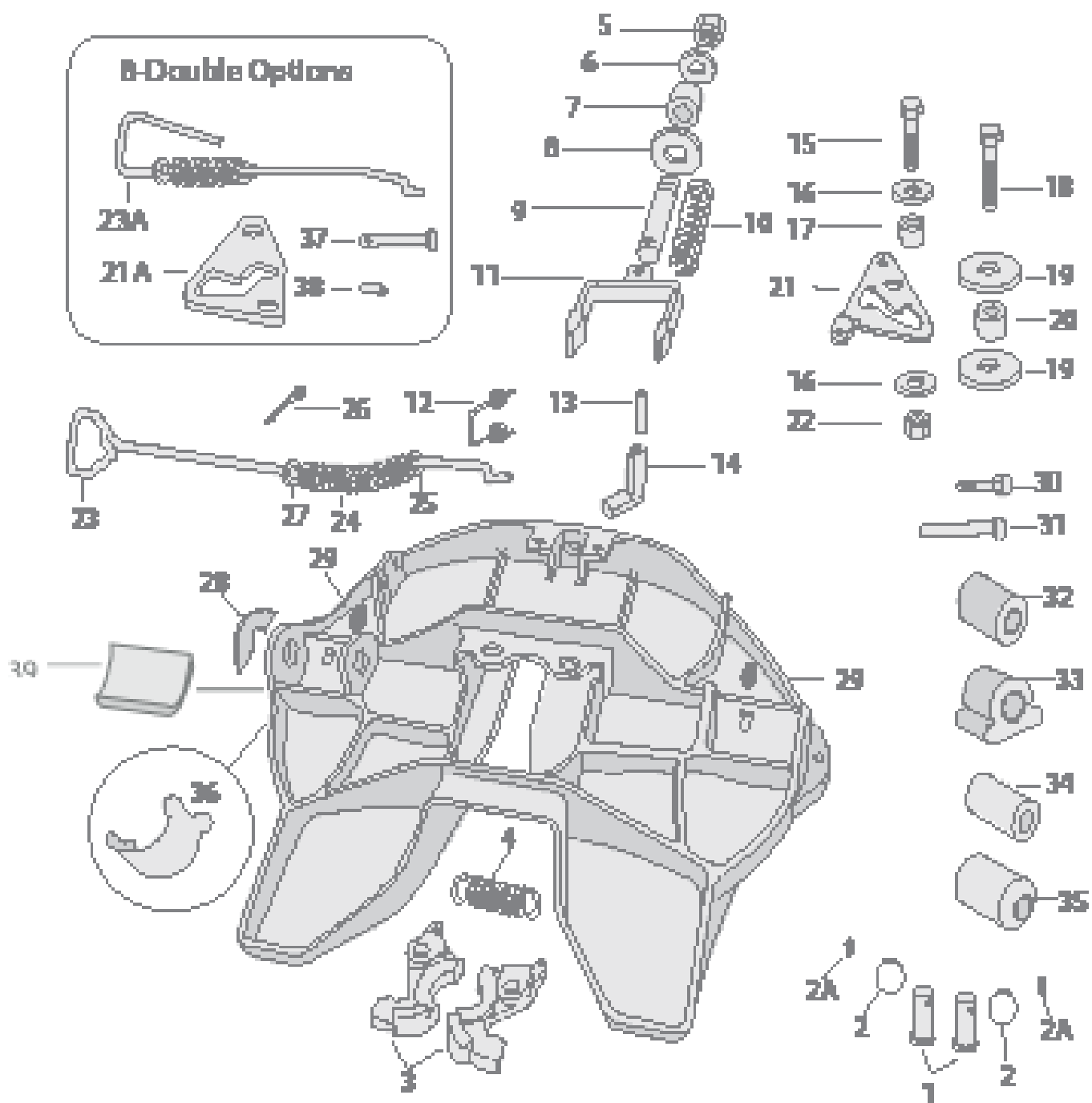
3. GENERAL ADVICE

- 3.1 When replacing turntables, new attachment angles and fitments must be used unless the existing angles and fitments can be used without the necessity of drilling new holes.
- 3.2 Welding is a specialised and skilled matter. Only competent persons trained in welding techniques should be employed to weld components. If in doubt use bolts!
- 3.3 Nuts, bolts and washers should not be re-used. "Nyloc" and similar self locking nuts are designed for limited re-use and manufacturers reusability recommendations must be observed.
- 3.4 Any bolt which has been drilled for a split pin must not be used.

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
	XA351A	Complete Top Plate Assembly	1	20*	XA1507	Roller (5/8" I.D.)	1
1*	XA0729282	Lock Pin	2	21*	XA07150R	Cam Plate, Right-hand	1
2	XB07398	Circlip	2		XA07150L	Cam Plate, Left-hand (optional)	1
2A	XBH38A	Grease Nipple 90°	2	21A	XA1705	Cam Plate, B-Double	1
3*	XA07296	Lock Jaw Set	1	22	XBT69A	Locknut (1/2"-20)	2
4*	XB07628	Extension Spring	1	23*	XA071511	Release Handle	1
5	XBHNNH34F	Locknut (3/4" 16)	1	23A*	RKS02104	Release Handle Assembly, B-Double	1
6*	XBPW1316112	Washer (1 1/2" O.D. x 13/16" I.D.)	1	24	XB07291	Compression Spring	1
7*	XB1127	Rubber Washer	1	25	XBPW17321116	Washer (1-1/16" O.D x 9/16" I.D)	1
8*	XB02312	Lock Adjustment	1	26*	XB07508	Cotter Pin (1/8" x 1-1/4")	1
9*	XA1706	Yoke Shaft	1	27	XBT49	Washer (1-3/8" O.D x 9/16" I.D)	1
10*	XB1505	Compression Spring	1	28	XB07610	Operation Tag	1
11*	XA07295	Yoke	1	29	XBH38	Grease Nipple	2
	XA07295THK	Yoke, Thick (optional)		30	XBC95	Hex Head Cap Screw (1/2" - 20 x 1-1/4")	2
12*	XB2149	Torsion Spring	1	31*	XE06356	Foot Pin	2
13	XB21S5002750	Roll Pin (1/2" x 2-3/4")	1	32*	XB16045P	Foot Bush, Poly	2
14*	XA3542R	Secondary Lock, Right-hand	1	33	XB00113	Foot Bush, Slider Bracket Only	2
	XA3542L	Secondary Lock, Left-hand (optional)	1	34*	XB0011P	Foot Bush, Poly, Komp	2
15	XB1021	Hex Head Cap Screw (1/2"-20 x 1-3/4")	1	35*	XB16045J	Foot Bush, Compression	2
16*	XB08559	Washer (1-3/4" O.D. x 9/16" I.D)	2	36	DOGBONE	Wear pads - pair (optional)	1
17*	XA1029	Roller (1/2" I.D.)	1	37*	XA2016	Foot Pin	2
18	XBCX58F134	Hex Head Cap Screw (5/8"-18 x 1-3/4")	1	38*	XB21S3751750	Roll Pin	2
19*	XB07431	Washer (2-5/8" x 21/32")	2	39*	XD08908	Insert Pocket	2

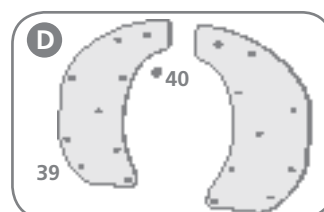
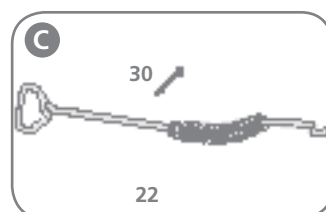
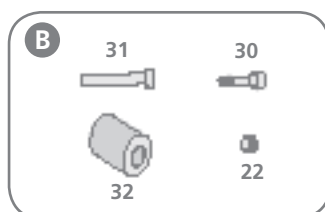
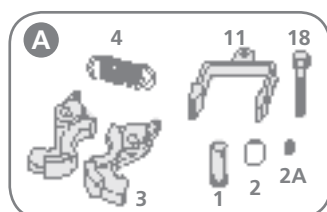
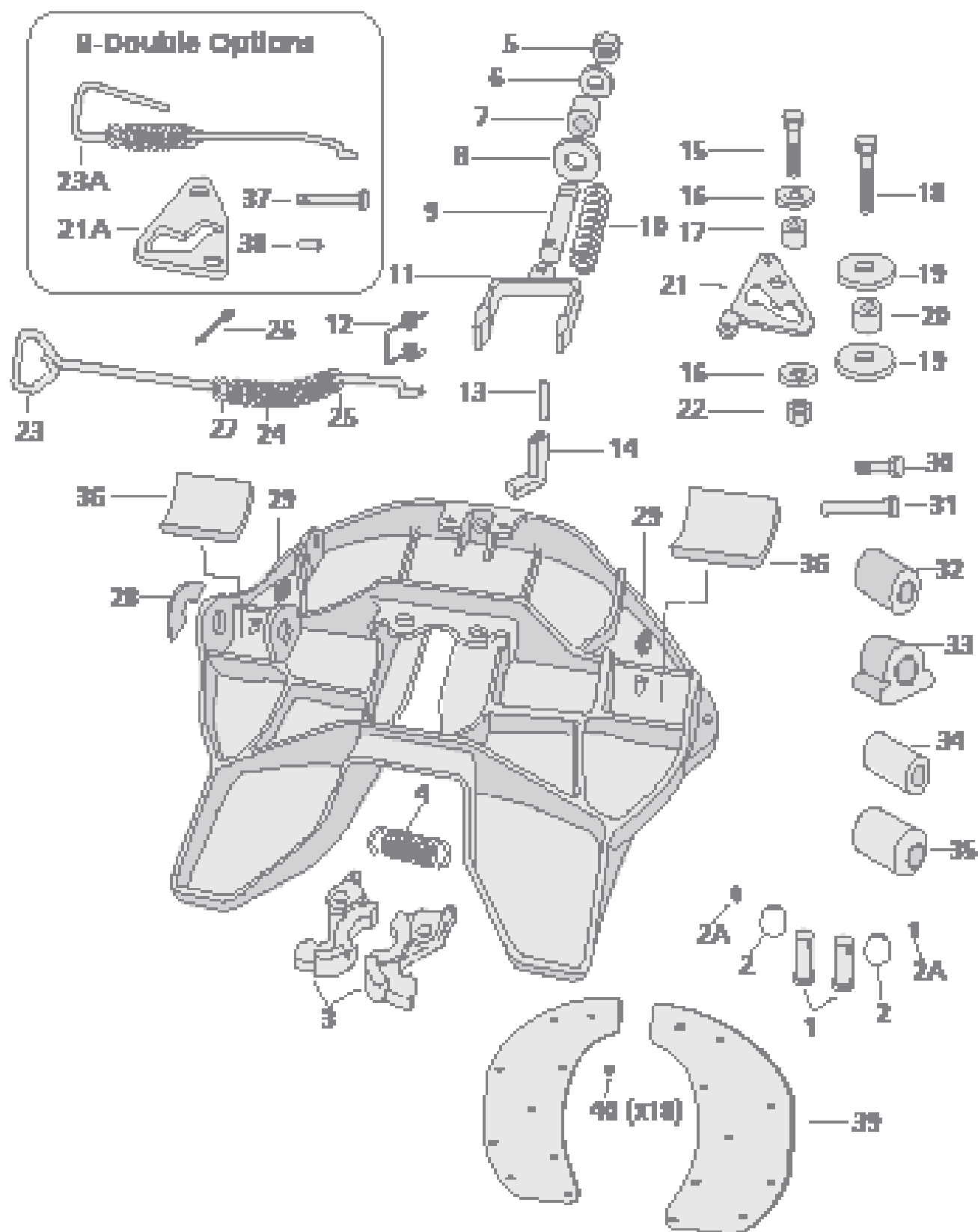
* Only available as part of a kit.

KIT	PART NO.	DESCRIPTION	QTY	ITEM
RK351A		Standard Rebuild Kit pro-hitch 351		1-29
RK35504		Mini Rebuild Kit, includes Foot Pins & Bushes	1	3, 4, 11, 18
			2	1, 2, 2A, 22, 30, 31, 32
RK35504THK		Mini Rebuild Kit, Thick Yoke	1	3, 4, 11, 18, 31
			2	1, 2, 2A, 22, 30, 32
RK35503A	A	Jaw Replacement Kit, c/w Yoke	1	3, 4, 11, 18
			2	1, 2, 2A
RK0729282		Lock Pin Replacement Set	2	1, 2, 2A
RK2016		Holland Pin Pack	2	37, 38
RK06356		Holland Pin Pack pro-hitch 351	2	22, 30, 31
RK06356P		Pin & Bush Kit c/w Poly Bush	2	22, 30, 31, 32
RK06356J	B	Pin & Bush Kit c/w Compression Bush	2	22, 30, 31, 35
RK16045P		Holland Bush Pack, Poly	2	32
RK16045J		Holland Bush Pack, Compression	2	35
RK0011P		Holland Bush Pack (Poly) Komp	2	34
RK3542R		Secondary Lock Replacement Kit	1	12, 13, 14
RK07150R	C	Cam Plate Kit	1	15, 17, 18, 20, 21, 22
			2	16, 19
RK1706	D	Yoke Shaft Replacement Kit	1	5, 6, 7, 8, 9, 10
RK071511		Release Handle Kit	1	23, 24, 25, 26, 27
RK08908		Insert Pair, includes double black tape	2	39



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
	XA331A	Complete Top Plate Assembly	1	21*	XA07150R	Cam Plate, Right-hand	1
1*	XA0729282	Lock Pin	2		XA07150L	Cam Plate, Left-hand (optional)	1
2	XB07398	Circlip	2	21A	XA1705	Cam Plate, B-Double	1
2A	XBH38A	Grease Nipple 90°	2	22	XBT69A	Locknut (1/2"-20)	2
3*	XA07296	Lock Jaw Set	1	23*	XA071511	Release Handle	1
4*	XB07628	Extension Spring	1	23A*	RKS02104	Release Handle Assembly, B-Double	1
5	XBHNH34F	Locknut (3/4" 16)	1	24	XB07291	Compression Spring	1
6*	XBPW1316112	Washer (1 1/2" O.D. x 13/16" I.D.)	1	25	XBPW17321116	Washer (1-1/16" O.D x 9/16" I.D)	1
7*	XB1127	Rubber Washer	1	26*	XB07508	Cotter Pin (1/8" x 1-1/4")	1
8*	XB02312	Lock Adjustment	1	27	XBT49	Washer (1-3/8" O.D x 9/16" I.D)	1
9*	XA1706	Yoke Shaft	1	28	XB07610	Operation Tag	1
10*	XB1505	Compression Spring	1	29	XBH38	Grease Nipple 90°	2
11*	XA07295	Yoke	1	30	XBC95	Hex Head Cap Screw (1/2" - 20 x 1-1/4")	2
	XA07295THK	Yoke, Thick (optional)		31*	XE06356	Foot Pin	2
12*	XB2149	Torsion Spring	1	32*	XB16045P	Foot Bush, Poly	2
13	XB21S5002750	Roll Pin (1/2" x 2-3/4")	1	33	XB00113	Foot Bush, Slider Bracket Only	2
14*	XA3542R	Secondary Lock, Right-hand	1	34*	XB0011P	Foot Bush, Poly, Komp	2
	XA3542L	Secondary Lock, Left-hand (optional)	1	35*	XB16045J	Foot Bush, Poly, Compression	2
15	XB1021	Hex Head Cap Screw (1/2"-20 x 1-3/4")	1	36*	XD08908	Insert pocket	2
16*	XB08559	Washer (1-3/4" O.D. x 9/16" I.D)	2	37*	XA2016	Foot Pin	2
17*	XA1029	Roller (1/2" I.D.)	1	38*	XB21S3751750	Roll Pin	2
18	XBCX58F134	Hex Head Cap Screw (5/8"-18 x 1-3/4")	1	39*	RK3311	Lube Plate Kit	1
19*	XB07431	Washer (2-5/8" x 21/32")	2	40*	XB08931	Lock Nut 5/16" - 18	18
20*	XA1507	Roller (5/8" I.D.)	1	* Only available as part of a kit.			

KIT PART NO.	DESCRIPTION	QTY	ITEM
RK351A	Standard Rebuild Kit pro-hitch 351		1-29
RK35504	Mini Rebuild Kit, includes Foot Pins & Bushes	1	3, 4, 11, 18
		2	1, 2, 2A, 22, 30, 31, 32
RK35504THK	Mini Rebuild Kit, Thick Yoke	1	3, 4, 11, 18, 31
		2	1, 2, 2A, 22, 30, 32
RK35503A	A Jaw Replacement Kit, c/w Yoke	1	3, 4, 11, 18
		2	1, 2, 2A
RK0729282	Lock Pin Replacement Set	2	1, 2, 2A
RK2016	Holland Pin Pack	2	37, 38
RK06356	Holland Pin Pack pro-hitch 351	2	22, 30, 31
RK06356P	Pin & Bush Kit c/w Poly Bush	2	22, 30, 31, 32
RK06356J	B Pin & Bush Kit c/w Compression Bush	2	22, 30, 31, 35
RK16045P	Holland Bush Pack	2	32
RK16045J	Holland Bush Pack, Compression	2	35
RK0011P	Holland Bush Pack (Poly) Komp	2	34
RK3542R	Secondary Lock Replacement Kit	1	12, 13, 14
RK1706	Yoke Shaft Replacement Kit	1	5, 6, 7, 8, 9, 10
RK07150R	Cam Plate Kit	1	15, 17, 18, 20, 21, 22
		2	16, 19
RK071511	Release Handle Kit	1	23, 24, 25, 26, 27
RK3311	C Lube Plate Kit	1	39
	D	18	40
RK08908	Insert Pair, includes double black tape	2	36





COMMERCIAL PRODUCTS WARRANTY

SAF-HOLLAND warrants Fifth Wheel, Landing Gear and Kingpin Commercial Products (products other than those normally used for personal, family or house hold purposes) manufactured by it, when properly installed, to be free from defects in material and workmanship under normal use and service for a period of one (1) year from the date of manufacture, with the exception of the FW351, FW331 and FW342 that have 3 years (not including attached Bases and Ballraces) FW70, FW72, G36, G37 and G38 Series fifth wheels that have 2 years (not including attached Bases and Ballraces) and the elevating fifth wheels for which the warranty period is ninety (90) days.

The warranty is void with respect to any product which has been altered in any way from its manufactured condition, such as intentional modification, accident, corrosion, misuse failure to provide necessary and reasonable maintenance and is exclusive of normal wear.

The sole responsibility of SAF-HOLLAND under this warranty is limited to repairing or replacing at the factory any part or parts which are returned, with transportation charges prepaid, and are found to be defective to the satisfaction of SAF-HOLLAND. Written authorization from SAF-HOLLAND must be obtained prior to returning any part or parts. No charges for transportation or for labour performed on SAF-HOLLAND products by unauthorized persons will be allowed under this warranty.

SAF-HOLLAND shall not be liable, in any event, for proximate, incidental, consequential or other damages, including but not limited to damages for loss of production or injury to persons or property arising out of any breach of this warranty.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE EXTENDING BEYOND THAT SET FORTH ABOVE.

SAF-HOLLAND reserves the right, without prior notice, to change specifications and dimensions as designs are altered and/or improved.

Options and features other than those shown may be provided.

W-1d





SAF 's history begins in 1881 in a village forge in Germany with the invention of a new plough. The family business soon starts building steel axles for agricultural vehicles, and under the name Otto Sauer Achsenfabrik (SAF) develops into one of the leading manufacturers of trailer axles and suspension systems in Europe.

A safety coupling between plough and horse team can be found at the beginning of Holland's history. The Safety Release Clevis Company was founded in South Dakota, USA , in 1910. After its move to Holland, Michigan, the company emerges as one of the largest supplier companies to the commercial vehicles industry under the name The Holland Hitch Company.

The merger of the two companies to form SAF-HOLLAND in 2006 creates one of the leading global suppliers of high-quality components and services for the commercial vehicle industry. Alongside axle and suspension systems for trailers and semi-trailers, the product range also includes kingpins and landing gear as well as fifth wheels for tractors, air suspensions, coupling products and numerous other components for buses and trucks.

Today SAF -HOLLAND is represented on all continents and distributes its products and services worldwide under the brand names SAF and HOLLAND. It can boast of an extensive distribution network with global service and dealer locations.

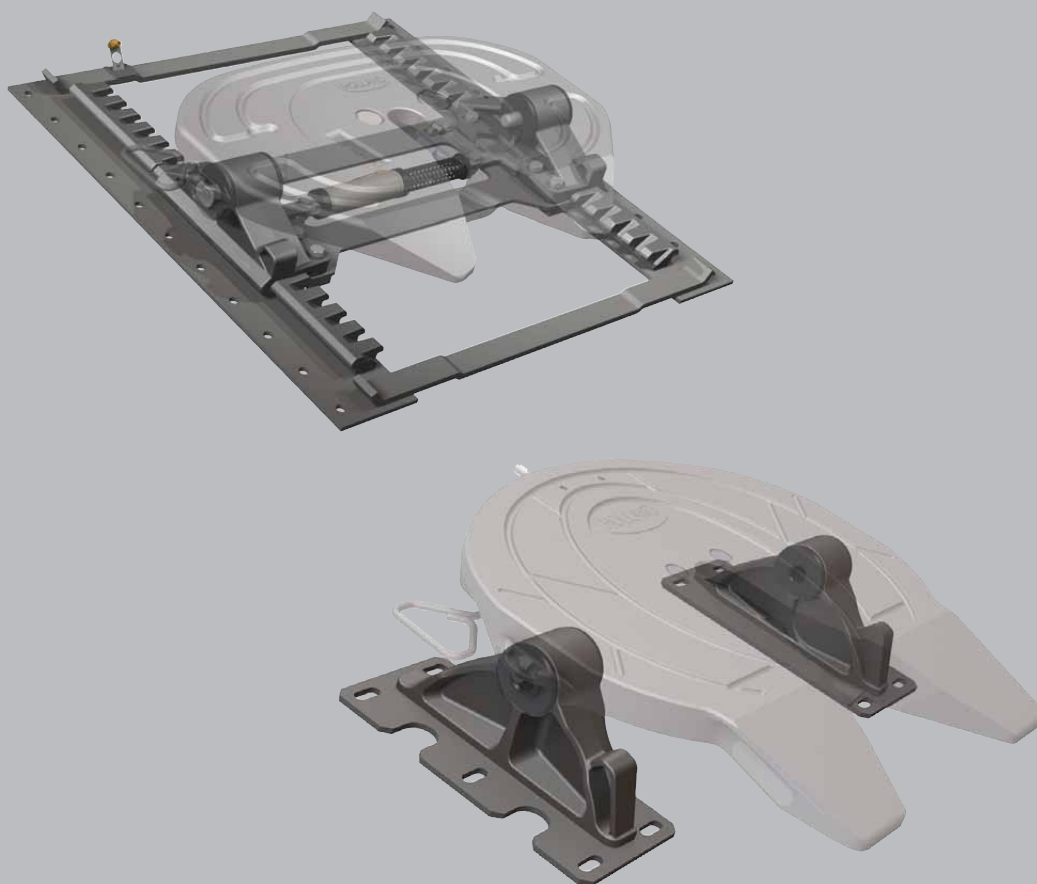
Installation Manual Manual de instalación

Fifth Wheel Mounting Brackets

- Sliding Bracket Mounts
- Stationary Bracket Mounts

Soportes de montaje de quinta rueda

- Montajes de soporte deslizable
- Montajes de soporte estacionario



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Introduction

This manual provides the information necessary for the proper installation of HOLLAND® fifth wheel mounting systems.

NOTE: For HOLLAND® fifth wheel mounting system components replacement contact SAF-HOLLAND® Customer Service at 1-888-396-6501.

Notes, Cautions, and Warnings

Before starting any work on the unit, read and understand all the safety procedures presented in this manual. This manual contains the terms "NOTE", "IMPORTANT", "CAUTION", and "WARNING" followed by important product information. These terms are defined as follows:

NOTE: Includes additional information to enable accurate and easy performance of procedures.

IMPORTANT: Includes additional information that if not followed, could lead to hindered product performance.

CAUTION Used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, could result in property damage.

CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

1. General Safety Instructions

Read and observe all Warning and Caution hazard alert messages in this publication. The information provided can help prevent serious personal injury, damage to components, or both.

All fifth wheel installations **MUST** be performed by a properly trained technician using proper tools and safe procedures.

IMPORTANT: You **MUST** read and understand all of the installation procedures contained in this manual before installing the fifth wheel.

⚠ WARNING Failure to follow all of the installation procedures contained in this manual could cause a hazardous condition to develop which, if not avoided, could result in death or serious injury.

IMPORTANT: Prior to operation of the fifth wheel you **MUST** be thoroughly satisfied that the fifth wheel has been properly installed on the vehicle.

⚠ WARNING Failure to properly install the fifth wheel can adversely affect performance resulting in tractor trailer separation which, if not avoided, could result in death or serious injury.

Only SAF-HOLLAND® Original Parts should be used.

A list of SAF-HOLLAND® technical support locations to supply SAF-HOLLAND® Original Parts can be found at: www.safholland.us or contact our customer service group at 1-888-396-6501.

Updates to this manual will be published as necessary online at www.safholland.us. For reference, this manual is identified as: XL-FW10008BM.

2. Fifth Wheel Intended Use

1. For pulling trailers with standard SAE kingpins which are in good condition and securely mounted or locked in position in the trailer.
2. The following fifth wheels are intended for on-road hauling applications only: FW16, XA-161, FW17, XA-171, FWS1, XA-S1, FW31, XA-311, FW33, XA-331, FWAL, XA-AL.

IMPORTANT: SAF-HOLLAND® definition of on-road means driving on 100% maintained concrete or asphalt roads.

3. Within the capacities stated in SAF-HOLLAND® literature.
4. As recommended in SAF-HOLLAND® literature (available at www.safholland.us).

3. Fifth Wheel NON-Intended Use

1. Use with non-SAE kingpins, such as kingpins which are bent, have improper size or dimensions, NOT secured to maintain SAE configuration, or are installed in warped trailer bolster plates or upper coupler and fifth wheel lube plates that DO NOT maintain the SAE kingpin dimensions. Refer to SAF-HOLLAND® Service Bulletin XL-SB004-01 (available on the internet at www.safholland.us) for more information on fifth wheel lube plates.
2. Tow-away operations which damage or interfere with the proper operation of the fifth wheel.
3. The attachment of lifting devices.
4. The transport of loads in excess of rated capacity.
5. In off-road applications.

IMPORTANT: SAF-HOLLAND® defines off-road as terrain on which a tractor-trailer operates which is unpaved and rough, or ungraded. Any terrain NOT considered part of the public highway system falls under this heading.

6. As recommended in SAF-HOLLAND® literature available at www.safholland.us.

4. Welding Standards

4.1 Scope

This specification applies to all components supplied by SAF-HOLLAND®, and its products. The customer assumes full responsibility for weld integrity if weld material and procedures differ from those listed below.

4.2 Workmanship

All welding on SAF-HOLLAND® products MUST be performed by a welder qualified according to the appropriate AWS standard for the weld being made or an equivalent standard. It is the responsibility of the customer to provide good workmanship when welding on SAF-HOLLAND® products.

4.3 Material

Items to be welded that are made from low carbon or high-strength alloy steel are to be welded with AWS filler metal specification AWS A5.18, filler metal classification ER-70S-3, ER-70S-6 or equivalent unless specified on the installation drawing.

NOTE: Any substitution for filler material from the above standard MUST comply, as a minimum, with the following mechanical properties:

Tensile Strength - 72k psi (496 MPa)
Yield Strength - 60k psi (414 MPa)
Charpy V Notch - 20 ft.-lbs. (27 N•m) at 0°F (-17.7°C)
% Elongation - 22%

The recommended welding gas for gas metal arc welding (GMAW) is 90% Argon / 10% CO₂. If a different gas is used, welds MUST comply with penetration requirements shown **(Figure 1)**. Where the installation drawing specifies different than above, the drawing shall prevail.

4.4 Procedures

Tack welds used for positioning components are to be located in the center of the final weld, where practical. Tack weld should be completely fused to the finish weld. DO NOT break arc at the end of the weld. Back up all finish welds at least 1/2" (12.7 mm) or a sufficient amount to prevent craters at the end of the weld. Where weld is shown to go around corners, it is assumed the corner represents a stress concentration area. DO NOT start or stop weld within 1" (25.4 mm) of the corner. Particular care should be taken to prevent undercutting in this area.

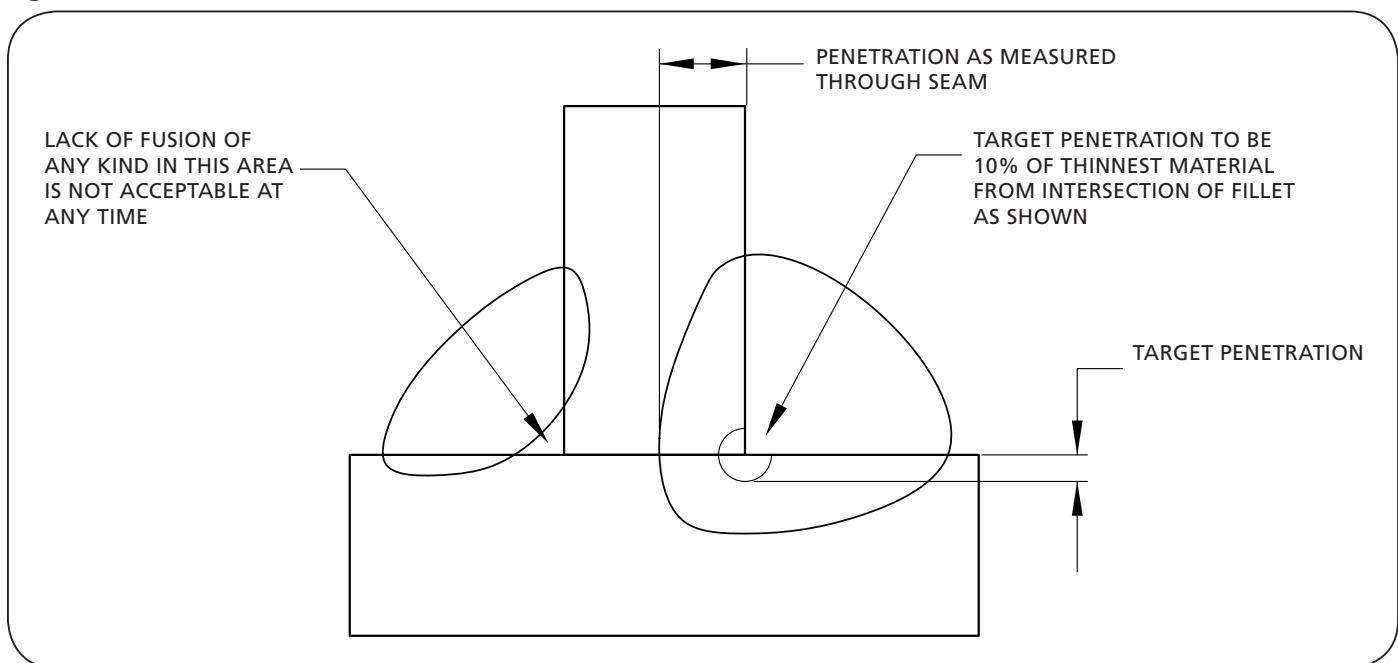
4.5 Weld Size

If weld size is not specified, the effective throat of the weld MUST be no smaller than the thinnest material being welded **(Figure 1)**.

⚠ WARNING

Failure to weld correctly could cause distortion, damage, and/or result in insufficient strength and subsequent joint failure which, if not avoided, could result in death or serious injury.

Figure 1



5. Model Identification

Fifth wheel serial tags are located on the handle side of the fifth wheel top plate above the fifth wheel bracket pin, or on the pickup ramps as illustrated (**Figure 2**).

The part number and serial number are listed on the tag as illustrated (**Figure 3**).

Figure 2

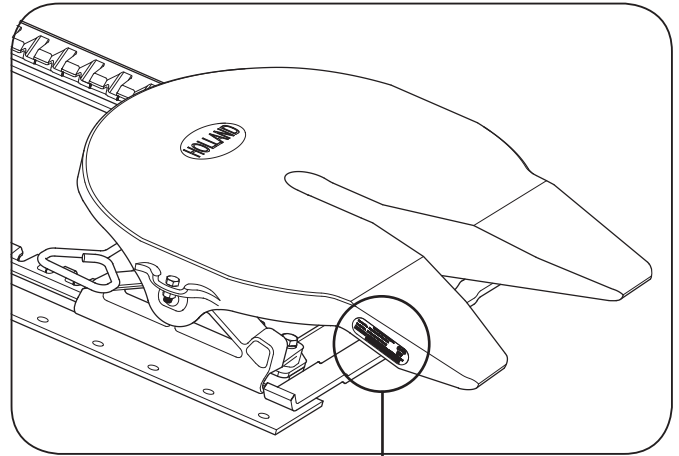
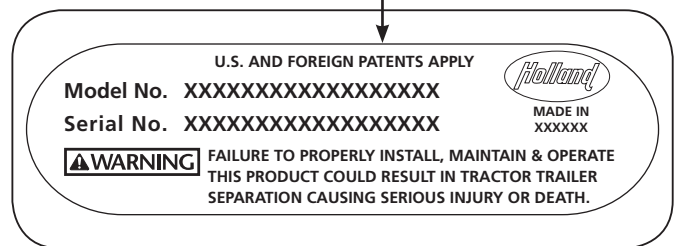


Figure 3



6. General Installation Instructions

1. Consult the HOLLAND® Fifth Wheel Catalog and Specification Guide for fifth wheel capacities and applications.
2. Consult the tractor manufacturer's body builder book, the latest SAE and D.O.T. standards, and the T.M.C. Recommended Maintenance Practice 603 B for installation procedures
3. Determine the proper fifth wheel position. Proper positioning of the fifth wheel is important for weight distribution, swing clearance, and handling characteristic. Consult SAEJ701, the tractor manufacturer's body builder book, and Section 8 of this manual.
4. Use only new Grade 8, 5/8" minimum diameter bolts and new Grade "C" lock nuts in all mounting holes. Larger diameter Grade 8 fasteners can be used.
5. Bolt holes can be 1/32" larger in diameter than the fastener. Bolts **MUST** be adequately tightened to manufacturer's torque recommendation.
6. The bolts attaching the fifth wheel mounting angles to the tractor frame require hardened steel washers under both the bolt and the locknut, unless flanged head bolts or flanged head lock nuts are employed.
7. A minimum of five (5) bolts are required to attach each stationary fifth wheel mounting angle to the frame.
8. A minimum of six (6) bolts are required to attach each sliding fifth wheel mounting angle to the frame rail.
9. The distance between bolts **MUST NOT** exceed 8", except when cutouts are required in the mounting angles.
10. Bolt holes **MUST** be located within 4" from the ends of the mounting angle.
11. Mounting bolts should be located no closer than 1" from the bottom of the mounting angle to the center of the bolt hole.
12. When attaching an outboard angle to the fifth wheel slide plate, all mounting holes are to be used on each side.
13. Whenever a cutout is made on the mounting angle, such as would be required to bypass spring hangers, a 1" minimum radius should be used in the cutout, and bolts should be placed within 1-1/2", but no closer than 1" of the cut, fore and aft.
14. The mounting angle should have a minimum thickness as specified in **Table 1** and should be steel specification ASTM A 36.
15. If the fifth wheel is to be mounted using a mounting base (Stationary Foot Mount), refer to **Table 1**.

Table 1

Fifth Wheel Vertical Capacity	Minimum Mounting Angle Thickness	Minimum Mounting Plate Thickness
Up to 55,000 lbs. 25,000 kg.	3/8"	3/8"
70,000 lbs. 31,750 kg.	1/2"	1/2"
100,000 lbs. 45,750 kg.	3/4"	3/4"
165,000 lbs. 74,850 kg.	3/4"	1"

IMPORTANT: For low height (6" or less) FW35, FW33 and FW31 models, a cutout in the mounting plate is required for proper articulation. Refer to Section 16 for cutout specifications.

16. The entire base of the fifth wheel assembly and mounting angle members **MUST** be mounted flush with the top of the frame rail to prevent flexing and to give uniform weight distribution. It is recommended to chamfer or smooth sharp edges and corners of mounting materials wherever contact is made with the tractor frame.

IMPORTANT: DO NOT use U-bolts in fifth wheel installations.

⚠ WARNING Use of U-bolts in fifth wheel installations could result in catastrophic failure of the fifth wheel assembly, which if not avoided, could result in death or serious injury.

17. Trailer pick-up ramps are recommended at the rear of the truck-tractor frame.
18. When mounting to aluminum frames, follow the tractor manufacturer's recommendations. SAF-HOLLAND® has available a stationary mounting angle intended for use with aluminum frames. Contact SAF-HOLLAND® or distributors of HOLLAND® brand products for availability.
19. The fifth wheel top plate could be removed from the base plate for ease of handling.

7. Top Plate Removal

1. Remove bracket pin retention nuts and bolts from both sides of the fifth wheel top plate (**Figure 4**).
2. Using a pry bar, pull bracket pins out of the fifth wheel top plate (**Figure 4**).
3. Using a lifting device capable of lifting 500 lbs. (227 kg), remove the top plate from the mounting base. Place fifth wheel on a flat, clean working area.

NOTE: Follow the instructions published by lifting device manufacturer for proper operation of lifting device.

NOTE: Fifth wheel assembly has replaceable pocket inserts installed between the fifth wheel top plate and mounting base. Take care when removing the fifth wheel top plate not to lose the pocket inserts.

8. Locating the Fifth Wheel



Failure to properly locate the fifth wheel forward of the rear axle or bogie centerline can adversely affect steering stability, potentially causing the driver to lose control of the vehicle which, if not avoided, could result in death or serious injury.

The following procedure is offered as an aid in determining the optimum fifth wheel location for a particular application involving either a stationary or sliding fifth wheel.

Before the correct fifth wheel location can be determined, the following information about the tractor and trailer **MUST** be obtained:

Front Axle Rating*	= []
Rear Axle Rating*	= []
Tractor Curb Weight**	= []
Tractor Curb Weight** Over Front Axle	= []
Tractor Curb Weight** Over Rear Axle	= []
Trailer Width	= []
Kingpin Setting (distance from kingpin to front of trailer)	= []
Distance from back of tractor cab to rear axle/bogie centerline	= []
Distance from center of kingpin to center of landing gear	= []

* This is the lesser value of the axle/tire/suspension ratings or the legal road weight limit.

** Road-ready curb weight, including all accessories (fifth wheel, fuel, and driver), but without trailer or payload.

Figure 4

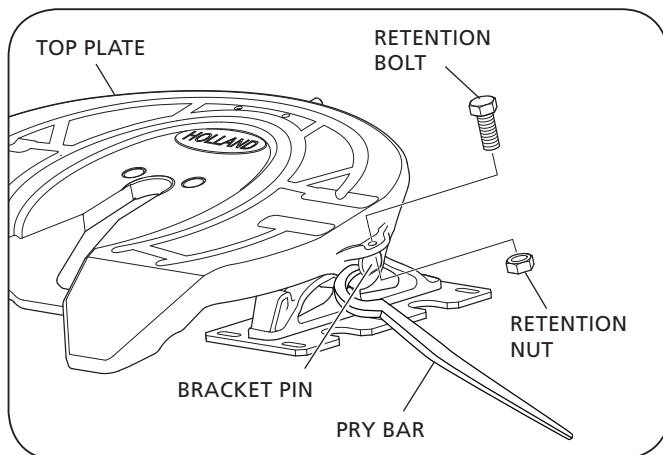


Figure 5

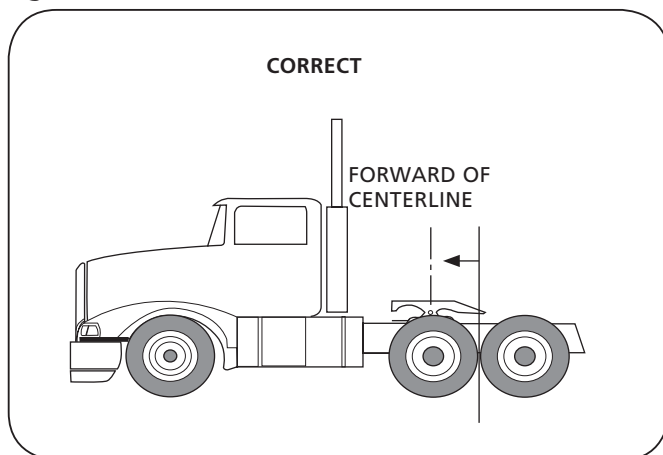
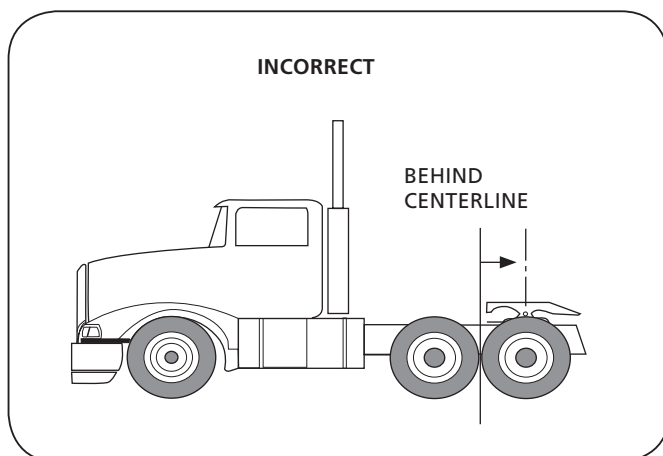


Figure 6



8.1 Determining Maximum Allowable Tractor Kingpin Load (KP_{MAX})

1. Subtract the tractor curb weight from the tractor axles' capacities.

$$\boxed{\text{Front Axle Rating}} + \boxed{\text{Rear Axle Rating}} = \boxed{\text{Tractor Axle Capacity}}$$

$$\boxed{\text{Tractor Axle Capacity}} - \boxed{\text{Tractor Curb Weight}} = \boxed{\text{Max. Allowable Kingpin Load}}$$

8.2 Determining Maximum Forward Fifth Wheel Location the Front Axle is Capable of Supporting (D_{MAX})

1. Multiply the maximum allowable load transfer to front axle and tractor's wheel base distance together, then divide by maximum allowable kingpin load.

$$\boxed{\text{Front Axle Rating}} - \boxed{\text{Tractor Weight Over Front Axle}} = \boxed{\text{Max. Load Transfer Allowed on Front Axle}}$$

$$\boxed{\text{Max. Load Transfer Allowed on Front Axle}} \times \boxed{\text{Tractor Wheel Base Distance Between Axles}} \div \boxed{\text{Max. Allowable Kingpin Load}}$$

$$= \boxed{\text{Maximum Forward Fifth Wheel Location Front Axle Can Support}}$$

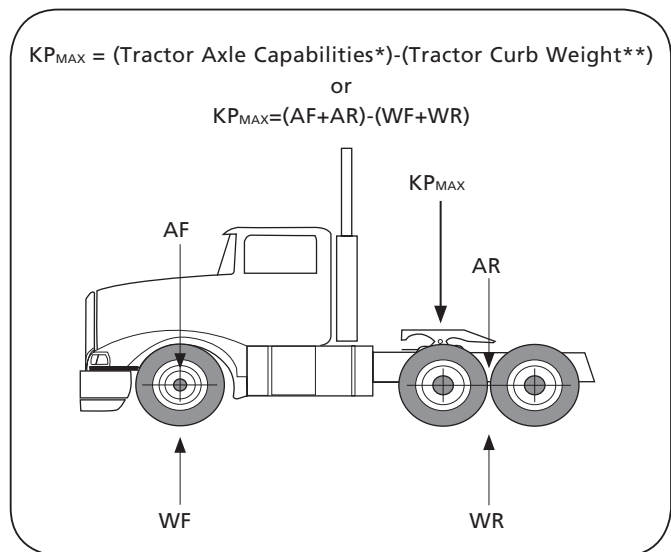
8.3 Determining Maximum Forward Fifth Wheel Location with Adequate Swing Clearance Between Tractor Cab and Trailer (DCF_{MAX})

IMPORTANT: Adequate swing clearance **MUST** be provided between the trailer and tractor cab.

⚠ WARNING

Failure to provide adequate swing clearance could result in collision between the trailer and tractor cab which, if not avoided, could result in death or serious injury.

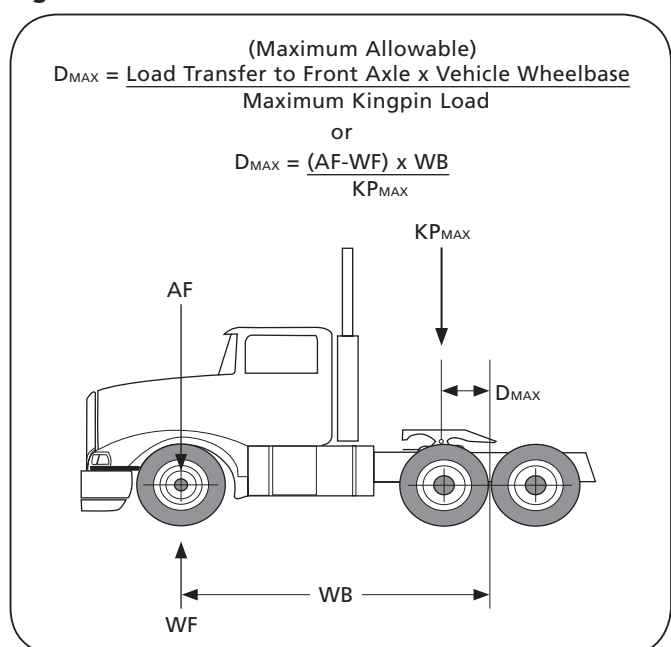
Figure 7



Legend:

- KP_{MAX} = Maximum allowable kingpin load
 AF = Front axle rating*
 AR = Rear axle rating*
 WF = Tractor weight over front axle**
 WR = Tractor weight over rear axle**
 WB = Wheel base (distance between axles)

Figure 8



1. Using the trailer width and kingpin setting, use **Table 2** to determine the appropriate back of cab swing clearance.

Back of Cab Swing Clearance

2. Measure the distance between the back of the tractor cab to the rear axle/bogie centerline.
3. Subtract the back of cab swing clearance (**Table 2**) from the distance between back of tractor cab to rear axle/bogie centerline.

$$\boxed{} - \boxed{} = \text{Back of Cab Swing Clearance (Table 2)}$$

$$=$$

Maximum Forward Fifth Wheel Location Allowing Adequate Tractor/Trailer Swing Clearance

IMPORTANT: Additional clearance for tractor and trailer could be required for items such as reefers, exhaust, stacks, glad hands racks, and headache racks.

WARNING Failure to provide adequate swing clearance could result in collision between the trailer and tractor cab which, if not avoided, could result in death or serious injury.

$$\text{DCFV}_{\text{MAX}} = \text{CA} - \text{CFV}$$

Legend:

W = Trailer width

KP = Kingpin setting (distance from kingpin to front of trailer)

CFW = Cab to fifth wheel clearance (*Table 2*)

CA = Distance between tractor cab and rear axle/
bogie centerline

Figure 9

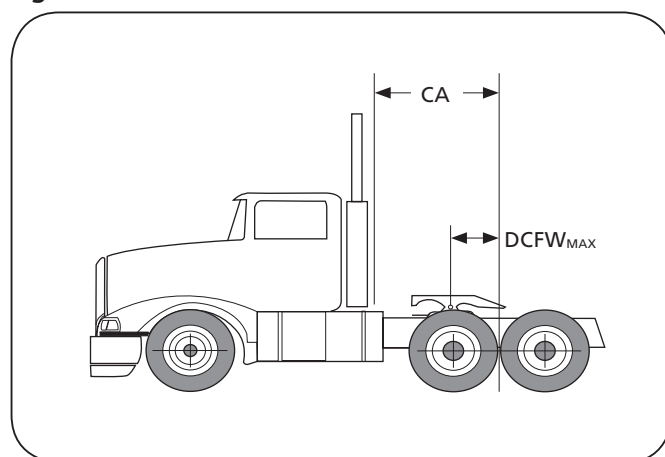


Figure 10

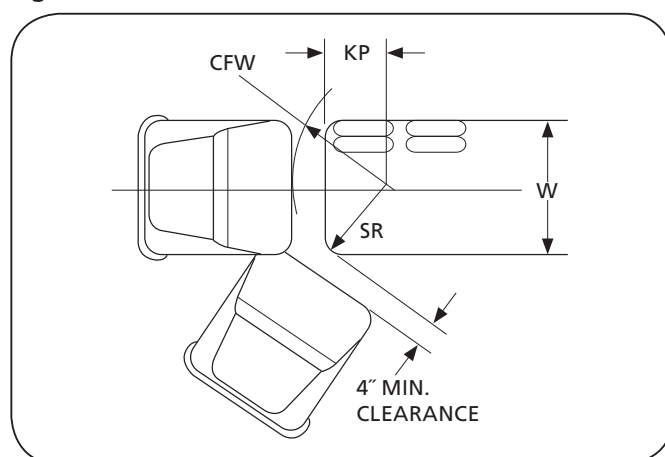


Table 2

Kingpin Setting (KP)	CFW	
	Trailer Width (W)	
	96 "	102 "
12 "	53.5 "	56.5 "
18 "	55.5 "	58.5 "
24 "	58.0 "	60.5 "
30 "	61.0 "	63.5 "
36 "	64.0 "	66.5 "
42 "	68.0 "	70.0 "
48 "	72.0 "	74.0 "

8.4 Determining Maximum Forward Fifth Wheel Location with Adequate Swing Clearance Between Tractor Tires and Landing Gear (DLWC_{MAX})

IMPORTANT: Adequate swing clearance **MUST** be provided between the tractor tires and landing gear.

CAUTION Failure to provide adequate swing clearance could result in collision between the tractor and trailer which, if not avoided, could result in property damage to the tractor and/or trailer.

1. Measure the distance from the centerline of the kingpin to the centerline of the landing gear.
2. Use the measurement found in Step 1 and **Table 3** to determine the maximum forward distance with adequate landing gear swing clearance.

NOTE: The LWC and DLWC dimensions provide 3" of clearance between the landing gear and tractor tires assuming 10.0" x 20" tires. Subtract 1" from DLWC for 22" tires.

Maximum Forward Fifth Wheel Location Allowing Adequate Landing Gear Swing Clearance

Legend:

LWC = Distance from centerline of kingpin to centerline of landing gear

Figure 11

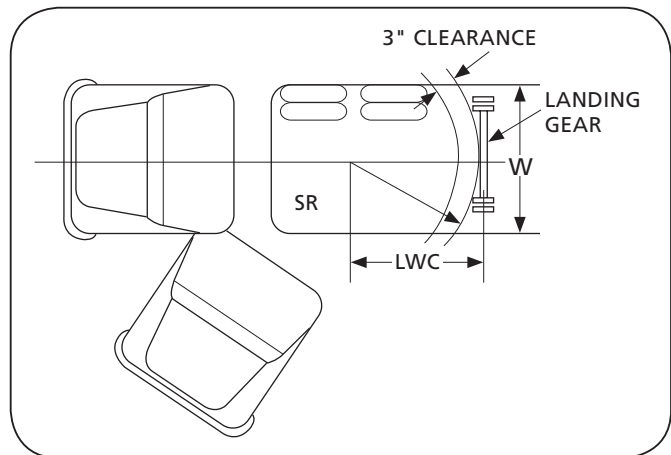
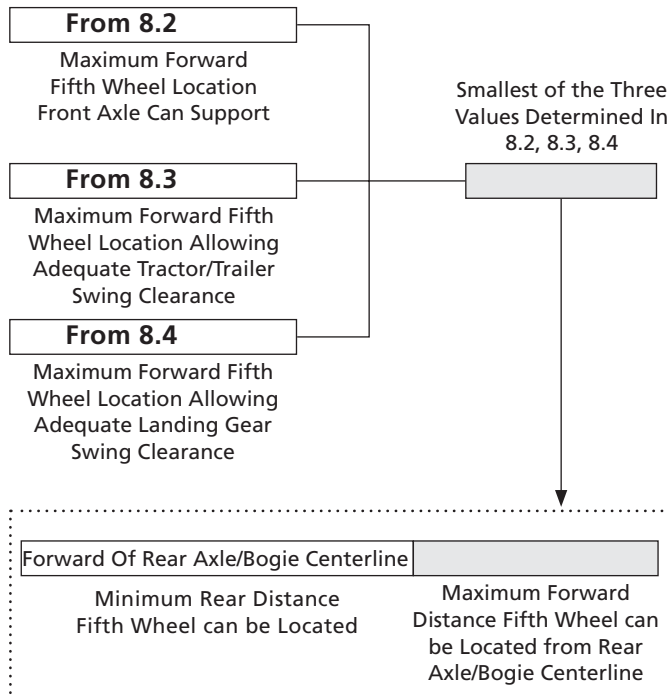


Table 3

LWC Distance from centerline of trailer kingpin to landing gear centerline		DLWC Maximum fifth wheel setting ahead of rear axle of bogie centerline
SINGLE AXLE TRACTOR	TANDEM AXLE TRACTOR	
55"	71"	0"
56"	72"	2"
57"	73"	4"
58"	75"	6"
59"	76"	8"
60"	78"	10"
61"	80"	12"
62"	81"	14"
64"	83"	16"
65"	84"	18"
66"	86"	20"
67"	87"	22"
69"	89"	24"
70"	91"	26"
72"	92"	28"
73"	94"	30"
77"	99"	36"
87"	110"	48"

8.5 Locating the Maximum Forward Mounting Location of the Fifth Wheel From the Rear Axle/Bogie Centerline (Including Slide Travel).

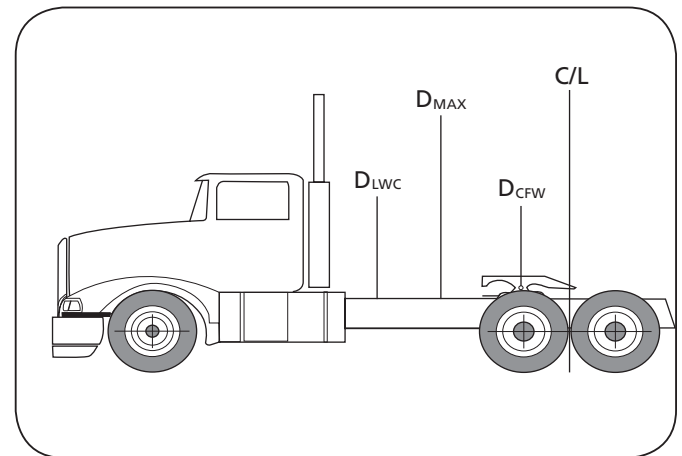
1. Compare the maximum forward distances from 8.2, 8.3, and 8.4 to find the smallest of the three values. This value is the absolute maximum fifth wheel forward position and will allow for proper load distribution on the tractor and accommodate the necessary swing clearances between the tractor and trailer.



Example:

Using **Figure 12** as an example, the fifth wheel can be mounted anywhere between the centerline of the rear axle (bogie) and DCFW as long as the fifth wheel can't slide beyond these points.

Figure 12



9. Outboard Sliding Mount (ILS)

ILS sliders are identified by the cast construction of the slide brackets and the absence of plunger lock adjustment bolts on the outside of the brackets (**Figure 13**).

If angles are NOT installed, refer to Section 6 for thickness and material. Use 3" minimum horizontal and 3-1/2" minimum vertical leg size. Longer horizontal legs could be required with narrow frame widths. The recommended length of each mounting angle is the same length as the slide base mounting plate.

In addition to the information given in Section 6, follow the recommendations in **Figure 14**.

1. Securely position the mounting angles to the tractor frame and attach as illustrated (**Figure 14**).

NOTE: The full length of the fifth wheel mounting angle should seat flush on the truck frame to prevent flexing of mounting angle and to give uniform weight distribution along the truck frame rail. Angles **MUST** be flush with the top of the truck frame.

CAUTION

Failure to seat mounting angle flush with top of tractor frame could result in excessive flexing of fifth wheel mounting base which, if not avoided, could result in damage to the fifth wheel.

2. Locate the slide base, and center left to right and front to rear on the mounting angle. **Figure 13** depicts distance from fifth wheel centerline to last mounting hole, when fifth wheel is in full rear position. Clamp in place and drill 21/32" diameter holes using the mounting plate as a template if holes are NOT provided in the angle.
3. Align holes in the slide plate with outboard angle mounting holes and bolts using 5/8" diameter Grade 8 bolts, hardened steel washers, flanged locknuts, or 5/8" diameter Grade C locknuts. Torque to bolt manufacturer's recommendations. Use all mounting holes on the fifth wheel.

NOTE: Tighten the center nut, then alternate nuts on either side, beginning with end nuts.

WARNING

Failure to properly secure fifth wheel to tractor frame could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

Figure 13

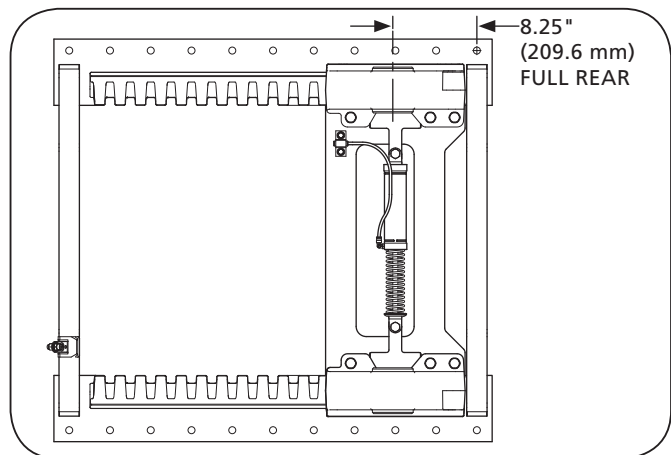
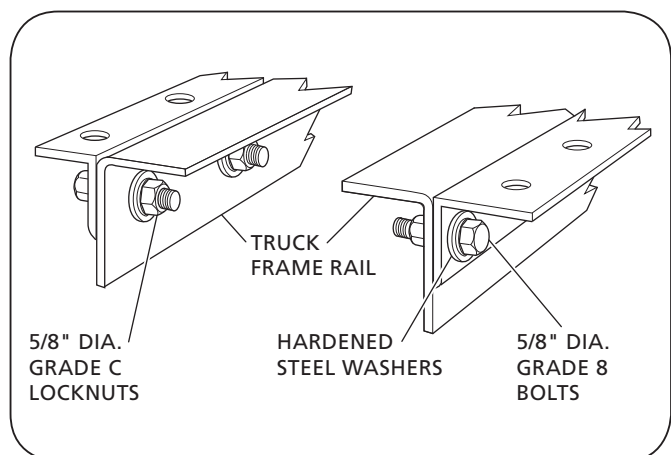


Figure 14



10. Outboard Sliding Mount (Traditional)

Traditional sliders are identified by the fabricated construction of the slide brackets and the plunger lock adjustment bolt located on the outside of the brackets (**Figure 15**).

If angles are NOT installed, Refer to Section 6 for thickness and material. Use 3" minimum horizontal and 3-1/2" minimum vertical leg size. Longer horizontal legs could be required with narrow frame widths. The recommended length of each mounting angle is the same length as the slide base mounting plate.

In addition to the information given in Section 6, follow the recommendations in **Figure 16**. The following sequence should be followed:

1. Securely position the mounting angles to the tractor frame and attach as illustrated (**Figure 16**).

NOTE: The full length of the fifth wheel mounting angle should seat flush on the truck frame to prevent flexing of mounting angle and to give uniform weight distribution along the truck frame rail. Angles **MUST** be flush with the top of the truck frame.

CAUTION

Failure to seat mounting angle flush with top of tractor frame could result in excessive flexing of fifth wheel mounting base which, if not avoided, could result in damage to the fifth wheel.

2. Locate the slide base and center left to right and front to rear on the mounting angle. **Figure 15** depicts distance from fifth wheel centerline to last mounting hole, when fifth wheel is in full rear position. Clamp in place and drill 21/32" diameter holes using the mounting plate as a template if holes are NOT provided in the angle.
3. Align holes in the slide plate with outboard angle mounting holes and bolts using 5/8" diameter Grade 8 bolts, hardened steel washers, flanged locknuts, or 5/8" diameter Grade C locknuts. Torque to bolt manufacturer's recommendations. Use all mounting holes on the fifth wheel.

NOTE: Tighten center nut, then alternate nuts on either side, beginning with end nuts.

CAUTION

Failure to properly secure fifth wheel to tractor frame could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

Figure 15

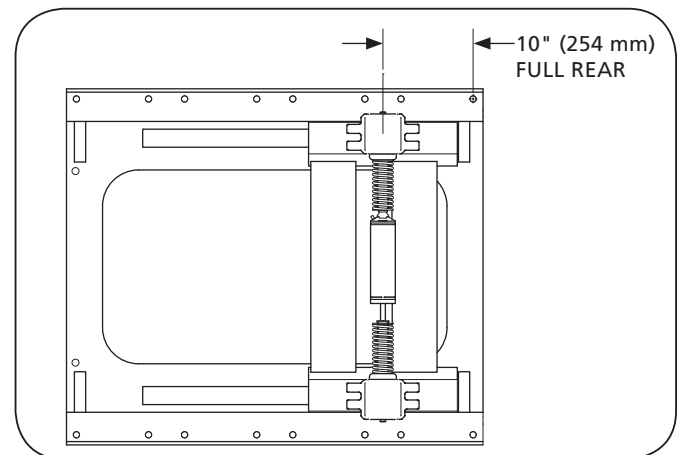
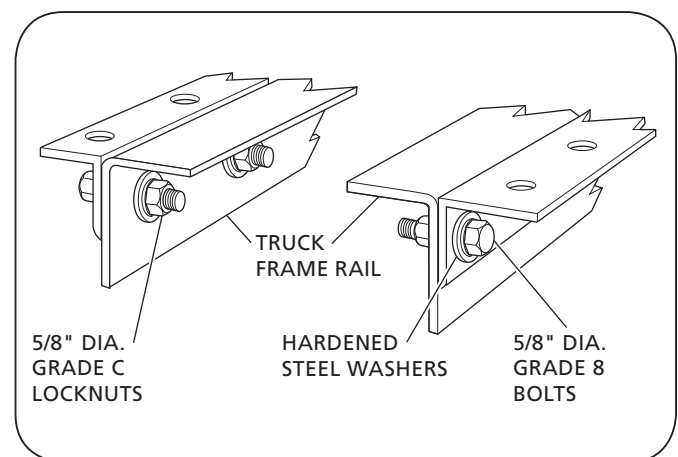


Figure 16



11. Inboard Sliding Mount (ILS)

ILS sliders are identified by the cast construction of the slide brackets and the absence of plunger lock adjustment bolts on the outside of the brackets. SAF-HOLLAND® supplies two (2) types of inboard angle mounting (ILS) slide bases, "B" style and "C" style, which require different installation procedures.

NOTE: Angles **MUST** be installed on the sliding fifth wheel base plate to facilitate mounting. Refer to Section 6 for angle thickness and material. Use a mounting angle which is at least 2" longer than the slide base, 36" minimum length, and 3-1/2" minimum vertical leg size.

The fifth wheel top plate may be removed from the base plate for ease of handling. Refer to instructions in Section 7 of this manual.

Position the angles on the slide plate for the required frame width. Be sure to keep the plate centered left to right, and front to rear on the mounting angles.

11.1 Welding "B" Style (ILS) Mounts

"B" Style (ILS) mounts are designed to accommodate various tractor frame widths. To accommodate the specific tractor frame width, the appropriate mounting angle size from the table below **MUST** be selected.

FRAME WIDTH (RANGE)	MOUNTING ANGLE HORIZONTAL LEG SIZE
33-1/4" to 33-1/2"	3"
33-5/8" to 34-1/2"	3-1/2"
34-5/8" to 35"	4"

Weld the slide base as illustrated (**Figures 17 and 18**). Outside welds to have a 3/8" fillet weld placed either on or between the tabs, depending on frame width. Inside welds to be a 3/8" fillet skip weld alternating with the outside welds so that they are staggered along the angle. Also weld the fifth wheel base plate to the top of the angle at the ends of the plate as illustrated (**Figure 17**).

11.2 Welding "C" Style (ILS) Mounts

"C" Style (ILS) mounts are intended to be used with structural angles as specified in the Section 6. Angle size to be 3-1/2" horizontal leg and 4" vertical leg. Weld the slide base as illustrated (**Figure 19**). Start and finish welds at the end of the plate.

Assembly: Assemble as specified in Section 6.

Figure 17

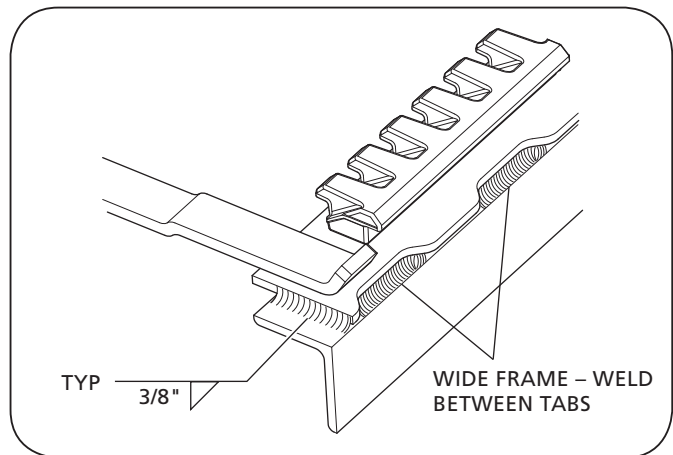


Figure 18

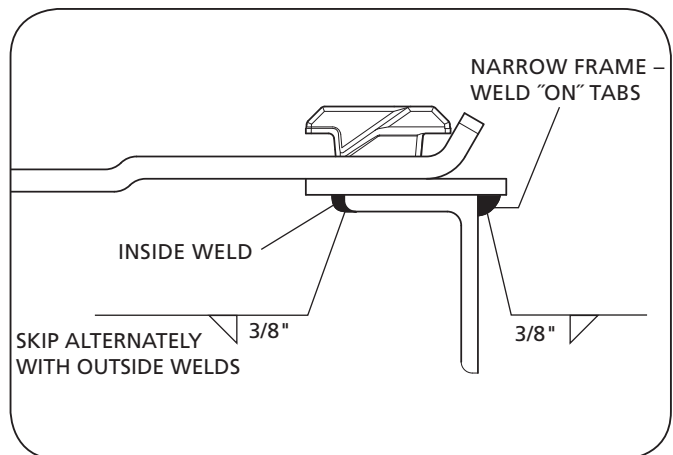
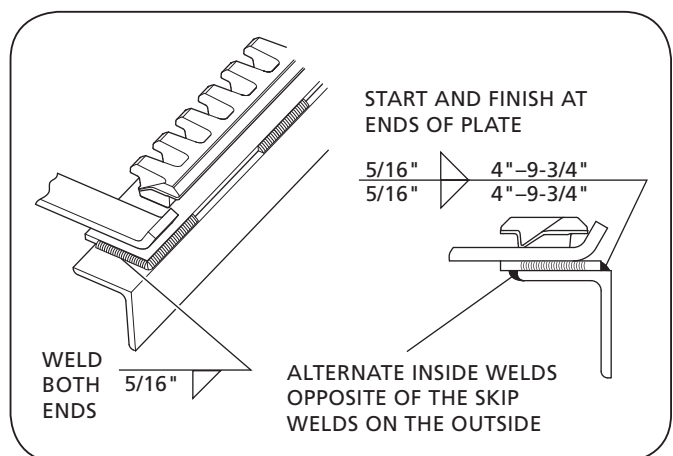


Figure 19



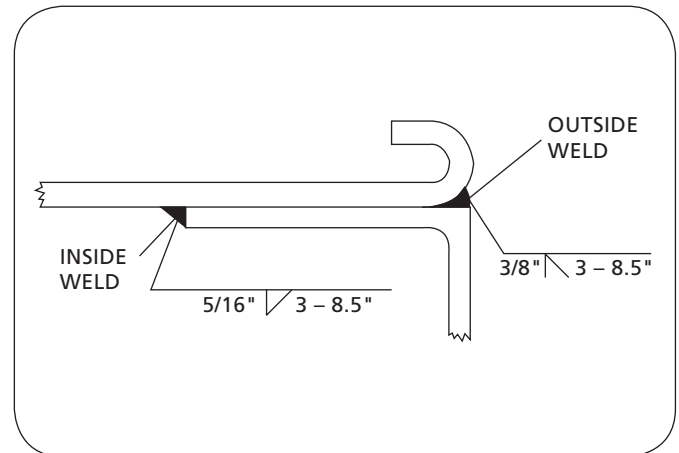
12. Inboard Sliding Mount (Traditional)

Traditional sliders are identified by the fabricated construction of the slide brackets and the plunger lock adjustment bolt located on the outside of the brackets.

1. Angles **MUST** be installed on the sliding fifth wheel base plate to facilitate mounting. Refer to Section 6 for angle thickness and material.
2. Use a mounting angle which is at least 2" longer than the slide base, 36" minimum length, 3-1/2" minimum vertical leg size, and 4" minimum horizontal leg.
3. The fifth wheel top plate may be removed from the base plate for ease of handling. Refer to the instructions in Section 7 of this manual.
4. Position the angles on the slide plate for the required frame width. Be sure to keep the plate centered left to right, and front to rear on the mounting angles.
5. Weld as illustrated (**Figure 20**). Make 5/16" fillet welds inside and 3/8" groove welds on the outside with skip welds 3" long on approximately 8-1/2" centers (weld 3", skip 5-1/2"). Weld inside opposite skips on the outside. Also weld the fifth wheel base plate to the top of the angle at the ends of the plate.

Assembly: Assemble as specified in Section 6.

Figure 20



13. Slide Stops (Traditional Sliding Mounts)

IMPORTANT: It is the responsibility of the installer to ensure that slide stops are installed properly at all four (4) corners of the slider plate.

⚠ WARNING Failure to properly install slide stops at all four (4) corners of slide plate could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

1. Slide the bracket to the full rear position and engage the plungers in the rack. Position rear stops under the curled edge allowing some clearance to the bracket (approximately 1/8"). Clamp in place. This should position the stops approximately 1/4" to 1/2" from the rear edge of the plate (**Figures 21 and 22**).
2. Slide bracket ahead, out of the way, and weld the stops in place as illustrated (**Figures 21 and 22**) with a 5/16" fillet weld.
3. Slide the bracket to the full rear position and check for clearance. Make sure the plungers on the sliding bracket seat properly into the rack with all teeth engaged. Repaint as required.

14. Air-Activated Slide Release (ILS)

1. Mount the cab control valve in accordance with the instructions provided. It should be readily accessible to the driver, but protected to prevent accidental activation.
2. Attach an air line, using appropriate fittings to the "air" or "in" port of the valve. Use an air source recommended by the tractor manufacturer. Use fittings and lines of suitable pressure rating.
3. Make sure that the air supply to the fifth wheel and slide base is turned off.
4. Remove any masking that could be present on the bulkhead and union fittings. Remove any foil masking that could have been left on the air cylinder.
5. Connect the coiled air line by pushing it into the union fitting as illustrated (**Figure 23**).

Figure 21

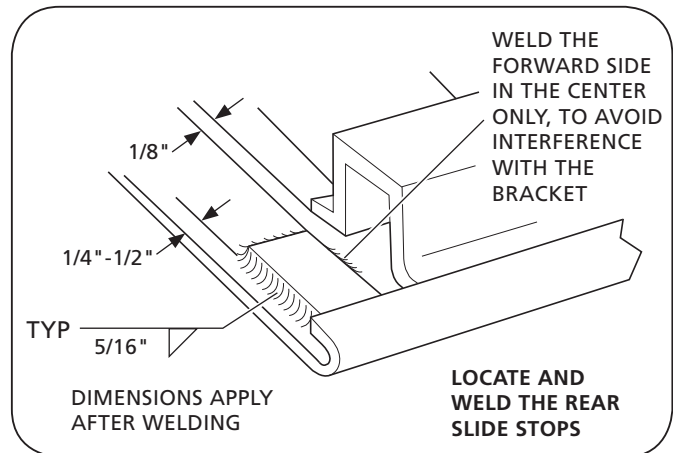


Figure 22

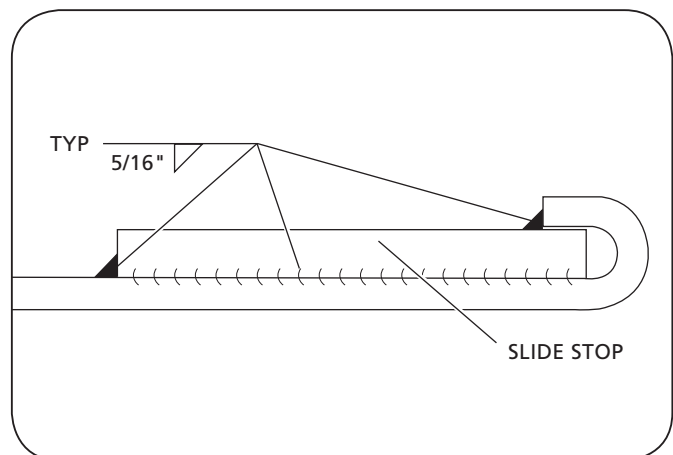
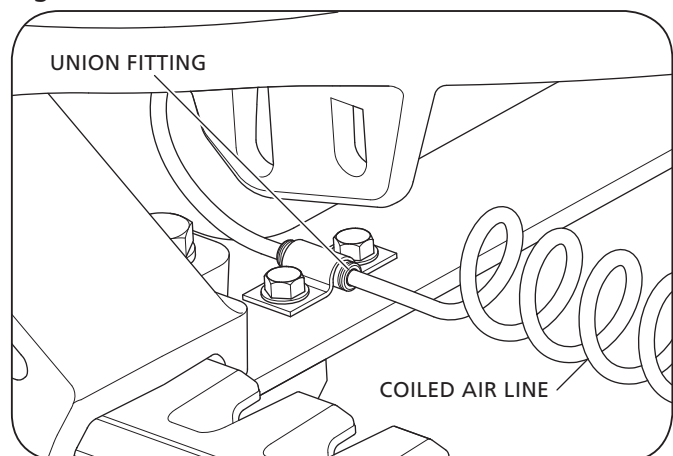


Figure 23



6. Connect the other end of the coiled air line by pushing it into the bulkhead fitting on the standoff as illustrated (**Figure 24**). If there are any air line interferences, the bulkhead fitting can be repositioned using an optional hole in the standoff.
7. Turn on the air supply to the fifth wheel and slide base; check for proper function.

15. Air-Activated Slide Release (Traditional)

Mount the cab control valve in accordance with the instructions provided. It should be readily accessible to the driver, but protected to prevent accidental activation.

1. Attach an air line, using appropriate fittings to the "air" or "in" port of the valve. Use an air source recommended by the tractor manufacturer. Use fittings and lines of suitable pressure rating.
2. Connect an air line between the "cyl" or "out" port of the valve and the active side of the air cylinder. A bulkhead fitting could be placed at the front of the slide base plate, if desired. Use fittings and lines of suitable pressure rating and be sure line is run so as NOT to interfere with any other operation or component.
3. Check operation of the valve and cylinder.

16. Outboard Stationary Foot Mount

HOLLAND® foot mount fifth wheels are an outboard mount application intended for installation on flat or corrugated mounting plates. In addition to the information given in Section 6, the following sequence should be followed when installing the foot mount fifth wheel:

1. Bolt the outboard mounting angle to the truck frame following the recommendations in **Figure 25**. The top of the mounting angle **MUST** be flush with the top of the tractor frame.

CAUTION

Failure to seat mounting angle flush with top of tractor frame could result in excessive flexing of fifth wheel mounting base which, if not avoided, could result in damage to the fifth wheel.

The mounting angle should be 1" longer than the mounting plate. The minimum angle size requirements are as follows: 3" horizontal leg, 3-1/2" vertical leg, and 36" long. For angle thickness and material requirements, refer to Section 6.

Figure 24

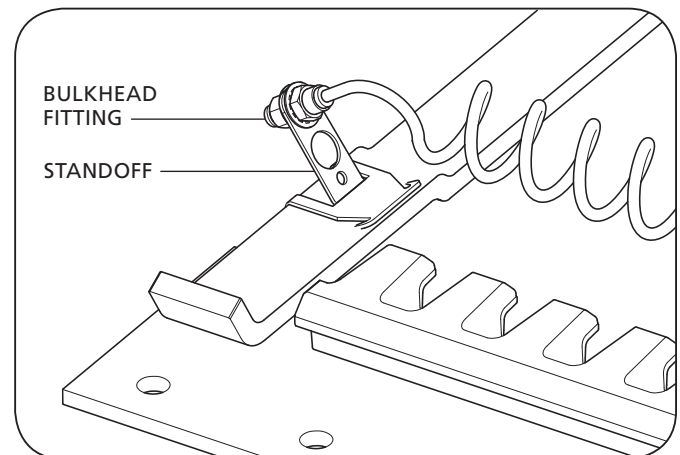
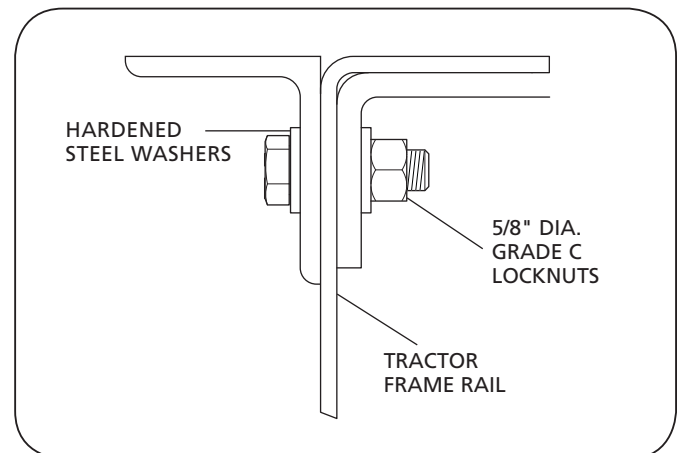


Figure 25



2. Reference **Figure 26** for proper mounting hole location requirements.
3. For low height (6" or less) FW35, FW33 and FW31 models, a cutout in the mounting plate is required for proper articulation (**Figure 27**).
4. Securely position the mounting plate and fifth wheel on the outboard mounting angles.
5. Bolt the mounting plate and fifth wheel to the outboard angle as illustrated (**Figures 26 and 28**). Torque to fastener manufacturer recommendations.

⚠ WARNING Failure to properly secure fifth wheel to tractor frame could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

Assembly: Assemble as specified in Section 6.

Figure 26

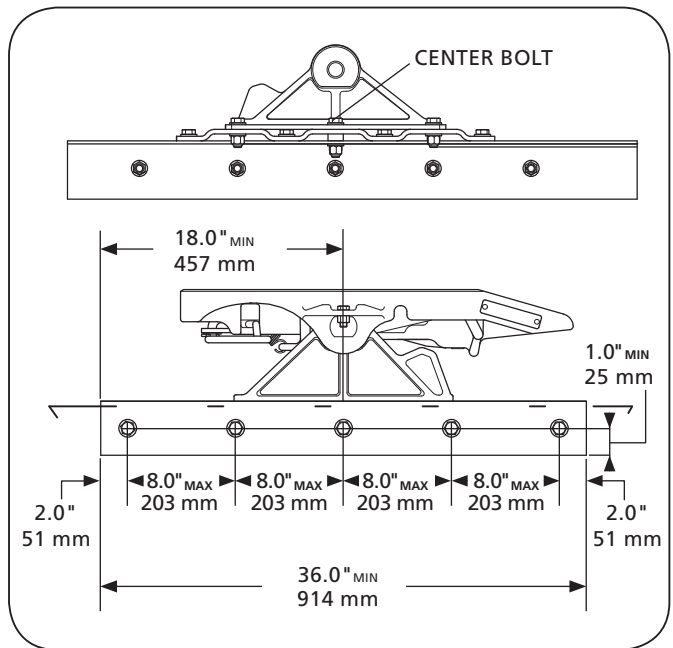


Figure 27

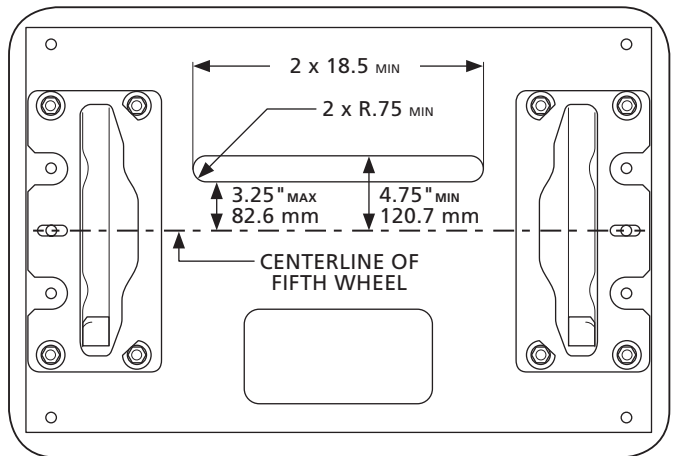
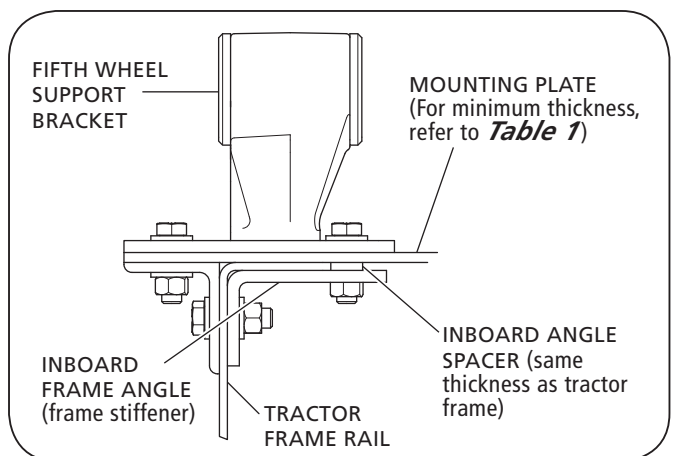


Figure 28



17. Outboard Stationary Integrated Plate Mount

HOLLAND® integrated plate mount fifth wheels are a reduced weight outboard mount application intended for installation directly on mounting angles. In addition to the information given in Section 6, the following sequence should be followed when installing the integrated plate mount fifth wheel:

1. Bolt the outboard mounting angle to the tractor frame following the recommendations in **Figure 29**. The top of the mounting angle **MUST** be flush with the top of the tractor frame.

CAUTION

Failure to seat mounting angle flush with top of tractor frame could result in excessive flexing of fifth wheel mounting base which, if not avoided, could result in damage to the fifth wheel.

The mounting angle should be 1" longer than the mounting plate. The minimum angle size requirements are as follows: 3" horizontal leg, 3-1/2" vertical leg, and 36 inches long.

2. For angle thickness and material requirements refer to Section 6 (**Table 1**).
3. Reference **Figure 30** for proper mounting hole location requirements.
4. Securely position the fifth wheel on the outboard mounting angles.

Figure 29

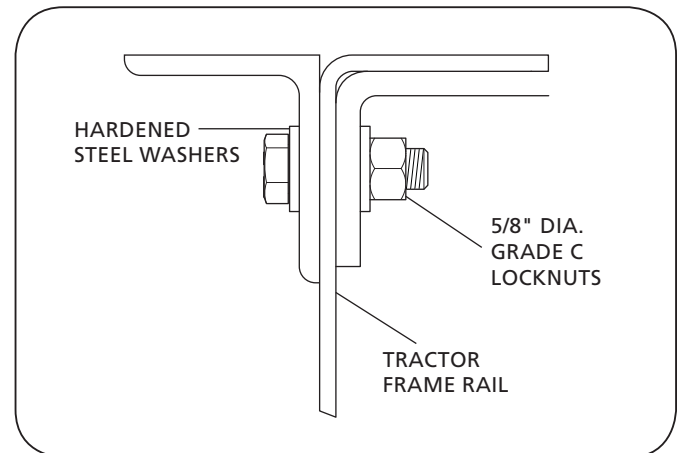
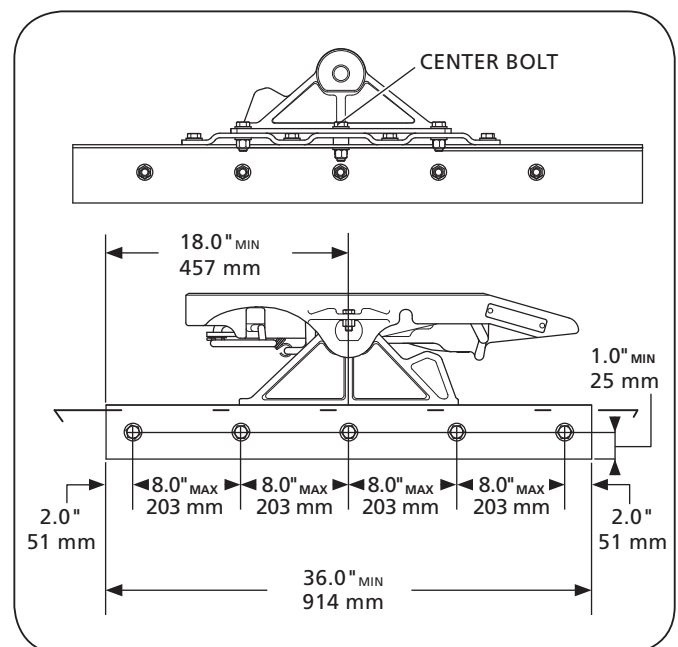


Figure 30



5. Bolt the fifth wheel to the outboard angle as illustrated (**Figure 31**). Torque to fastener manufacturer recommendations.

⚠ WARNING Failure to properly secure fifth wheel to tractor frame could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

Assembly: Assemble as specified in Section 6.

18. Inboard Stationary Angle Mount

HOLLAND® standard angle mount fifth wheels are provided with the mounting bracket welded in the center of a standard 4" x 4" x 36" long angle for a specific frame width dimension. Various heights, frame widths, and angle sizes are available. In addition to the information given in Section 6, the following sequence should be followed when installing the angle mount fifth wheel:

1. Verify the distance between the mounting angles and tractor frame width to ensure a proper fit when the fifth wheel is installed on the tractor.
2. Reference Section 17 for proper mounting hole location requirements.
3. Securely position the mounting angle to the tractor frame.
4. Bolt the angles to the tractor frame following the recommendations in **Figure 32**.

⚠ WARNING Failure to properly secure fifth wheel to tractor frame could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

Assembly: Assemble as specified in Section 6.

Figure 31

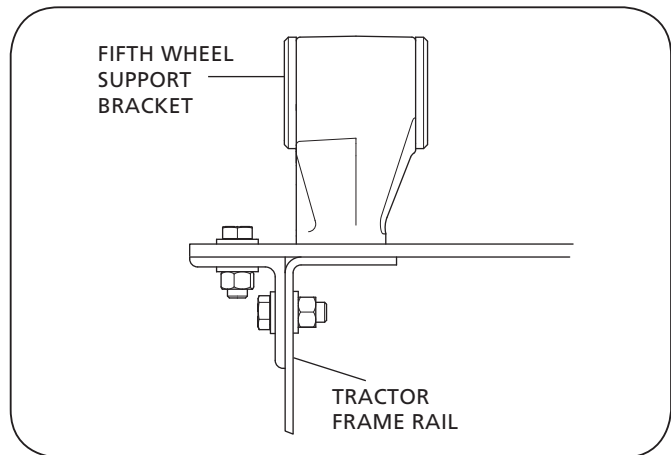
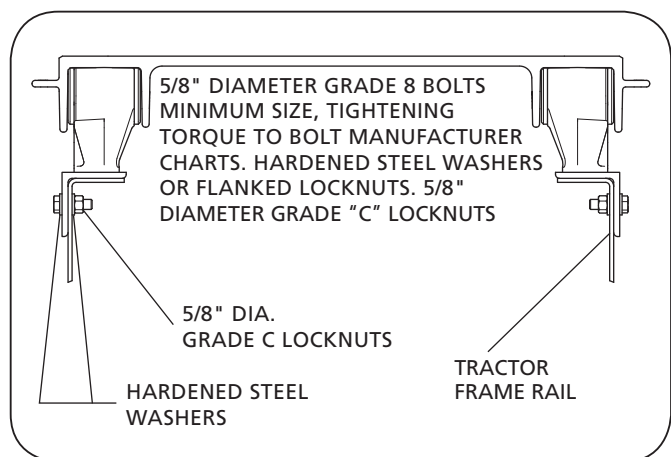


Figure 32



19. Bracket Only Stationary Mount

HOLLAND® bracket only mount fifth wheels are a weld-on product that can be mounted in a variety of configurations. The following is the recommended procedure for welding the variations of standard over the road bracket applications.

1. Review **Figures 33, 34 and 35** for the specific bracket used in the application. Follow the recommended welding procedure as illustrated.
2. For angle fabrication, the mounting angle should extend a minimum of 18" forward and no less than 12" to the rear of the pivot point. Minimum angle length is 36".
3. Brackets need to be positioned so that the fifth wheel can be properly mounted on the brackets when secured to the tractor frame.
4. For angle thickness refer to Section 6 (**Table 1**).
5. For installation after welding, follow the stationary fifth wheel mounting instructions for inboard stationary angle mounting in Section 18.

WARNING

Failure to properly secure fifth wheel to tractor frame could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

Assembly: Assemble as specified in Section 6.

Figure 33

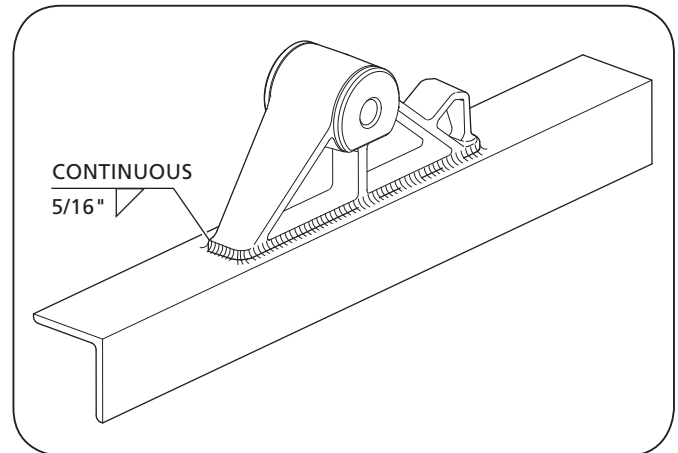


Figure 34

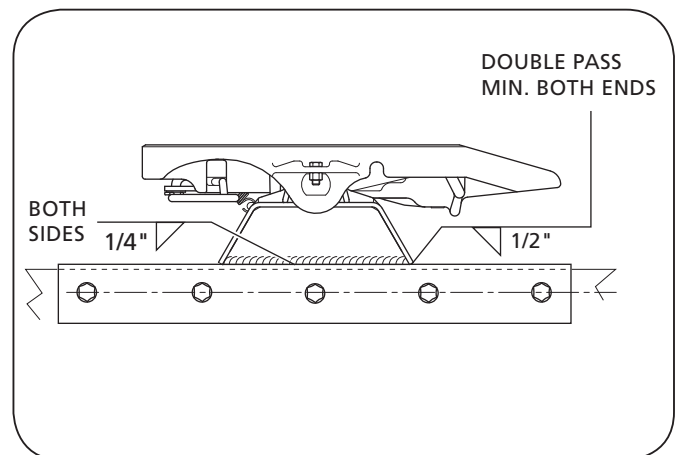
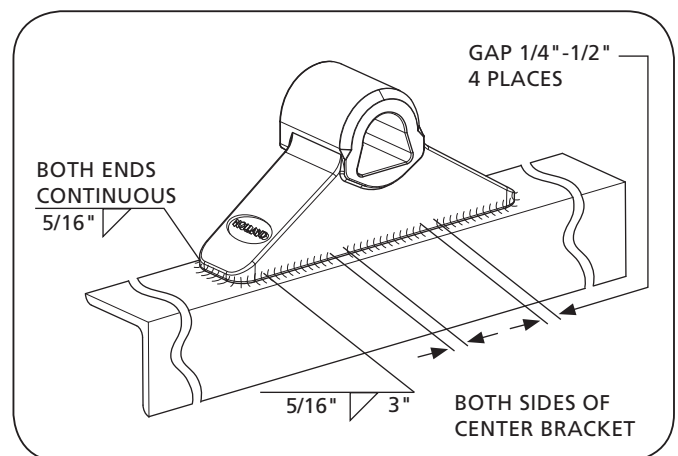


Figure 35



20. Top Plate Installation

1. For fifth wheels with pocket inserts: If pocket inserts are dislodged from fifth wheel casting, clean pocket area of casting and apply a strip of double face tape in bottom of pockets. Install pocket inserts by pressing down firmly into pockets (**Figure 36**).
2. Using a lifting device capable of lifting 500 lbs.(227 kg), install the fifth wheel top plate onto its mounting base.

NOTE: Follow instructions published by lifting device manufacturer for proper operation of lifting device.

3. Install bracket pins through fifth wheel top plate and mounting base and secure by installing the bracket pin retention bolts and nuts (**Figure 37**). Torque retention fasteners to manufacturer's recommendation.

Figure 36

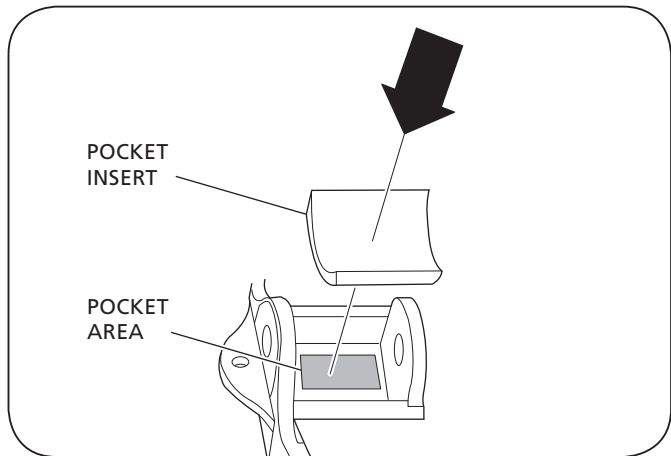
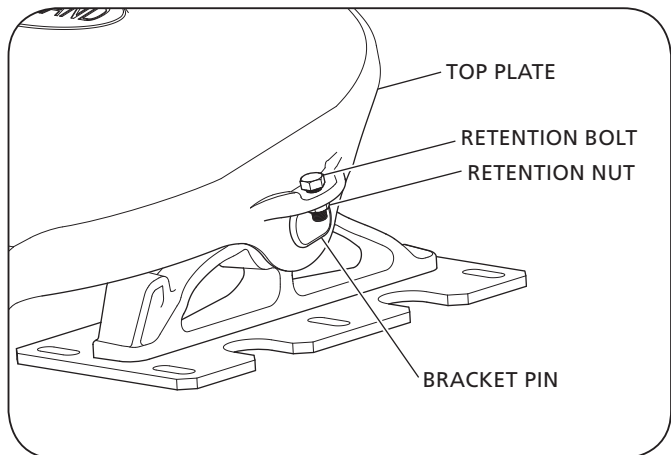


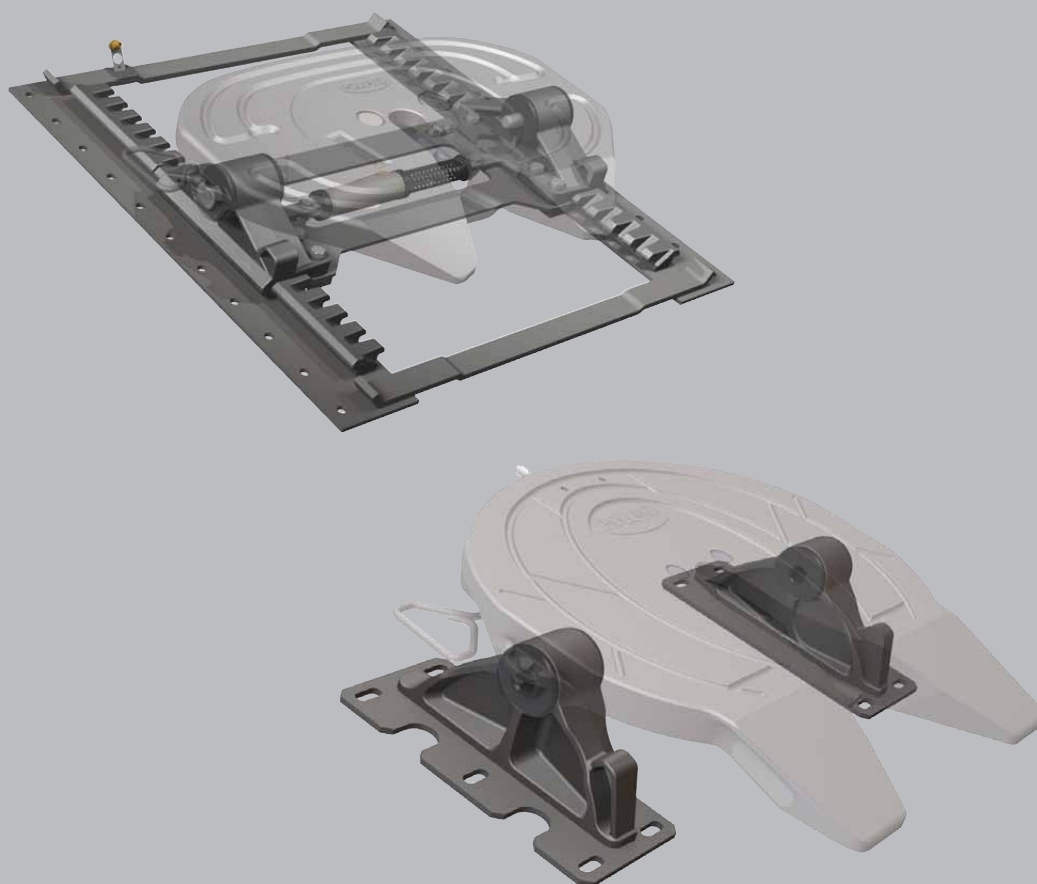
Figure 37



Manual de instalación

Soportes de montaje de quinta rueda

- Montajes de soporte deslizante
- Montajes de soporte estacionario



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Introducción

Este manual brinda la información necesaria para la instalación adecuada de los sistemas de montaje de quinta rueda HOLLAND®.

NOTA: Para obtener refacciones de componentes de sistema de montaje de quinta rueda HOLLAND® comuníquese con el servicio al cliente de SAF-HOLLAND® al 1-888-396-6501.

Notas, precauciones y advertencias

Antes de comenzar a trabajar en la unidad, lea y entienda todos los procedimientos de seguridad presentados en este manual. Este manual contiene los términos "NOTA", "IMPORTANTE", "PRECAUCIÓN" y "ADVERTENCIA" seguidos de información importante sobre el producto. Estos términos se definen como sigue:

NOTA: Incluye información adicional para permitir la realización de procedimientos exactos y fáciles.

IMPORTANTE: Incluye información adicional que, de no atenderse, podría ocasionar una disminución en el rendimiento del producto.

PRECAUCIÓN Sin el símbolo de alerta de seguridad indica una situación con riesgo potencial que, si no se evita, puede provocar daños materiales.

PRECAUCIÓN Indica una situación con riesgo potencial que, si no se evita, puede provocar lesiones menores o moderadas.

ADVERTENCIA Indica una situación con riesgo potencial que, si no se evita, puede provocar la muerte o lesiones graves.

1. Instrucciones generales de seguridad

Lea y preste atención a todos los mensajes de alerta, de advertencia y de precaución de riesgos de este documento. La información proporcionada puede ayudar a evitar lesiones personales graves, daños a los componentes o ambos.

Toda la instalación de la quinta rueda DEBE realizarla un técnico debidamente capacitado con las herramientas y los procedimientos de seguridad adecuados.

IMPORTANTE: Usted DEBE leer y comprender todos los procedimientos de instalación presentados en este manual antes de comenzar a instalar la quinta rueda.



Si no sigue todos los procedimientos de instalación que contiene este manual puede ocasionar una situación peligrosa que, si no se evita, podría ocasionar la muerte o lesiones graves.

IMPORTANTE: Antes de comenzar la operación de la quinta rueda usted DEBERÁ estar completamente satisfecho de que la quinta rueda ha sido bien instalada en el vehículo.



Si no instala adecuadamente la quinta rueda, podría perjudicar el desempeño y ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Sólo deben usarse refacciones originales SAF-HOLLAND®.

En la siguiente página web puede encontrar una lista de locales de apoyo técnico de SAF-HOLLAND® que pueden proveer refacciones originales SAF-HOLLAND®: www.safholland.us o puede comunicarse con nuestro grupo de servicio al cliente al 1-888-396-6501.

Las actualizaciones de este manual se publicarán cuando sea necesario en la red en www.safholland.us. Para referencia, este manual se identifica como: XL-FW10008BM.

2. Uso esperado para la quinta rueda

1. Para jalar de remolques con pernos rey estándar de la SAE en buenas condiciones y colocados firmemente o asegurados en su lugar en el remolque.

2. Las siguientes quintas ruedas están diseñadas únicamente para aplicaciones de remolque en carretera: FW16, XA-161, FW17, XA-171, FWS1, XA-S1, FW31, XA-311, FW33, XA-331, FWAL, XA-AL.

IMPORTANTE: La definición de SAF-HOLLAND® de en carretera significa conducción 100% en caminos de concreto o asfalto con mantenimiento.

3. Dentro de las capacidades establecidas en las publicaciones de SAF-HOLLAND®.
4. Como se recomienda en las publicaciones SAF-HOLLAND® (disponibles en www.safholland.us).

3. Uso NO esperado para la quinta rueda

1. Uso con pernos rey diferentes a los de la SAE, como pernos rey que estén torcidos, de tamaño o dimensiones inadecuadas, NO asegurados para mantener la configuración de la SAE o instalados en placas de soporte para remolque torcidas o con placas lubricantes de acoplador superior y quinta rueda que NO mantengan las dimensiones del perno rey establecidas por SAE. Consulte el boletín de servicio SAF-HOLLAND® XL-SB004-01 (disponible en internet en www.safholland.us) para obtener más información sobre placas lubricantes de quinta rueda.
2. Operaciones de remolque que dañen o interfieran con el funcionamiento adecuado de la quinta rueda.
3. El acople de dispositivos de elevación.
4. El transporte de cargas que superen la capacidad estipulada.
5. En aplicaciones fuera de la carretera.

IMPORTANTE: La definición de fuera de la carretera de SAF-HOLLAND® se refiere un terreno en que funciona el tractocamión-remolque y que no está pavimentado, es irregular o no está aplanado. Cualquier terreno que NO se considere parte del sistema público de carreteras cae en esta categoría.

6. Como se recomienda en las publicaciones SAF-HOLLAND® disponibles en www.safholland.us.

4. Estándar de soldadura

4.1 Alcance

Estas especificaciones se aplican a todos los componentes provistos por SAF-HOLLAND®, y sus productos. El cliente asume toda responsabilidad por la integridad de la soldadura si el material y el procedimientos de la soldadura difieren de los mencionados a continuación.

4.2 Mano de obra

Toda la soldadura de productos SAF-HOLLAND® la DEBE realizar un soldador calificado de acuerdo con las normas pertinentes de la AWS para realizar la soldadura o con una norma equivalente. Es responsabilidad del cliente proporcionar una buena mano de obra para soldar los productos SAF-HOLLAND®.

4.3 Material

Las partes a soldar hechas de acero bajo en carbono o aleado de alta resistencia se deberán soldar con la especificación AWS A5.18 de metal auxiliar de la AWS, clasificación de metal auxiliar ER-70S-3, ER-70S-6 o equivalente, a menos que se especifique en el diagrama de instalación.

NOTA: Cualquier sustitución del material auxiliar diferente del estándar anterior DEBE cumplir, como mínimo, con las siguientes propiedades mecánicas:

Resistencia a tensión - 72k psi (496 MPa)
 Límite de elasticidad - 60k psi (414 MPa)
 Entalla charpy en V - 20 pie-lb (27 N•m) a 0°F (-17.7°C)
 % de elongación - 22%

El gas de soldadura recomendado para la soldadura con gas por arco con electrodo metálico (GMAW) es 90% argón/10% CO₂. Si se usa un gas diferente, las soldaduras DEBEN cumplir con los requisitos de penetración mostrados (**Figura 1**). En caso que el diagrama de instalación especifique otra cosa, el diagrama tiene prioridad.

4.4 Procedimientos

Los puntos de soldadura usados para ubicar los componentes deberán estar colocados en el centro de la soldadura final, en caso que sea práctico. Los puntos de soldadura deberán fundirse completamente con la soldadura final. NO interrumpa el arco al final de la soldadura. Vuelva atrás todas las soldaduras finales al menos 1/2" (12.7 mm) o una distancia suficiente para evitar cráteres al final de la soldadura. Cuando aparece que la soldadura da vuelta las esquinas, se supone que la esquina representa un área de concentración de tensión. NO inicie o termine la soldadura a menos de 1" (25.4 mm) de la esquina. Se deberá tener particular cuidado para evitar que esta área esté socavada.

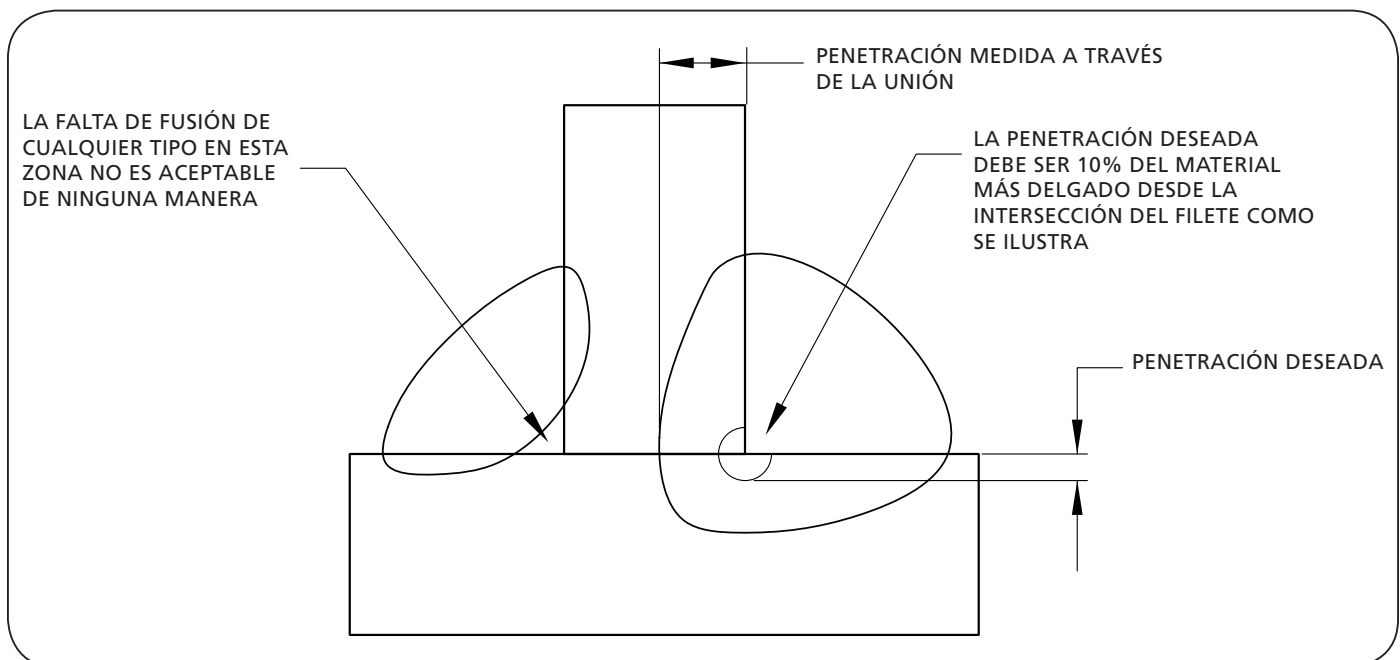
4.5 Tamaño de la soldadura

Si no se especifica el tamaño de la soldadura, la garganta efectiva de la soldadura NO DEBE ser menor que el material más delgado que se esté soldando (**Figura 1**).

ADVERTENCIA

Si no se suelda correctamente, se puede generar una alteración, un daño y/o tener como resultado una fuerza insuficiente con una falla consecuente en la unión que, si no se evita, puede provocar la muerte o lesiones graves.

Figura 1



5. Identificación del modelo

Las etiquetas de número de serie de la quinta rueda están colocadas del lado de la manija en la placa superior de la quinta rueda encima del perno de soporte, o en las rampas de acoplamiento como se ilustra (**Figura 2**).

El número de parte y el número de serie aparecen en la etiqueta como se ilustra (**Figura 3**).

Figura 2

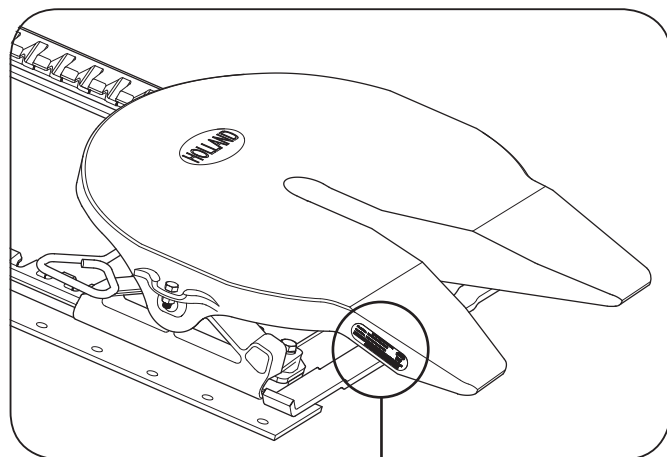
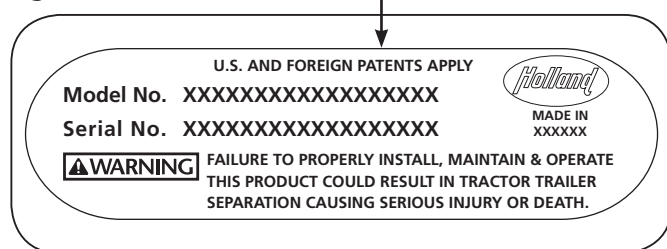


Figura 3



6. Instrucciones generales de instalación

1. Consulte las capacidades y aplicaciones de la quinta rueda en el catálogo y la guía de especificaciones de quintas ruedas HOLLAND®.
2. Consulte los métodos de instalación adicionales en el manual del fabricante de la carrocería del tractocamión y en las normas más recientes de la SAE y el D.O.T., y en las prácticas recomendadas de mantenimiento de TMC 603 B para procedimientos de instalación.
3. Determine la posición adecuada de la quinta rueda. La posición adecuada de la quinta rueda es importante para la distribución del peso, el radio de giro libre y las características de manejo. Consulte SAEJ701, el libro del fabricante de la carrocería del tractocamión y la Sección 8 de este manual.
4. Use únicamente tornillos nuevos de grado 8 con un diámetro mínimo de 5/8" (16 mm) y tuercas de seguridad nuevas de grado "C" en todos los agujeros de montaje. Se pueden usar tornillos grado 8 con un diámetro mayor.
5. Los agujeros de los tornillos pueden tener un diámetro 1/32" más grande que el tornillo. Los tornillos se DEBERÁN apretar correctamente según las recomendaciones de torque del fabricante.
6. Los tornillos que acoplan los ángulos de montaje de la quinta rueda al larguero del tractocamión requieren arandelas de acero cementado debajo del tornillo y de la tuerca de seguridad, a menos que se usen tornillos de cabeza con bridas o tuercas de seguridad con bridas.
7. Se necesitan al menos cinco (5) tornillos para acoplar cada ángulo de montaje estacionario al larguero.
8. Se necesitan al menos seis (6) tornillos para acoplar cada ángulo de montaje deslizante al larguero.
9. La distancia entre los tornillos NO DEBE superar las 8", excepto cuando se necesiten aberturas en los ángulos de montaje.
10. Los agujeros para tornillos DEBEN ubicarse a menos de 4" de los extremos del ángulo de montaje.
11. Los tornillos de montaje deberán ubicarse a no menos de 1" entre la parte inferior del ángulo de montaje y el centro del agujero para tornillo.
12. Cuando fije un ángulo externo a la placa deslizante de la quinta rueda, debe usar todos los agujeros de montaje en cada lado.
13. Cuando se haga una abertura en el ángulo de montaje, tal como la necesaria para hacer pasar los muelles de la suspensión, se debe usar un radio mínimo de 1" en la abertura y los tornillos se deben colocar a entre 1 y 1 1/2" pero a no menos de 1" de la abertura, adelante y atrás.

14. El ángulo de montaje debe tener un espesor mínimo como el que se especifica en la **Tabla 1** y debe cumplir con la especificación para acero ASTM A 36.
15. Si se va a montar la quinta rueda usando una base de montaje (montaje estacionario de pie), consulte la **Tabla 1**.

Tabla 1

Capacidad vertical de la quinta rueda	Espesor mínimo del ángulo de montaje	Espesor mínimo de la placa de montaje
Hasta 55,000 lb 25,000 kg	3/8"	3/8"
70,000 lb 31,750 kg	1/2"	1/2"
100,000 lb 45,750 kg	3/4"	3/4"
165,000 lb 74,850 kg	3/4"	1"

IMPORTANTE: Para modelos de altura baja FW35, FW33 y FW31 (6 pulgadas -15 cm- o menos) se necesita una abertura en la placa de montaje para lograr la articulación adecuada. Consulte las especificaciones de la abertura en la Sección 16.

16. La base completa del conjunto de la quinta rueda y las piezas de los ángulos de montaje DEBEN asentarse niveladas en la parte superior del riel del larguero para evitar que se doblen y para lograr una distribución uniforme del peso. Se recomienda achafanar o alisar los bordes y esquinas afiladas de los materiales de montaje en los lugares en donde entren en contacto con el larguero del tractocamión.

IMPORTANTE: NO utilice tornillos en U para la instalación de la quinta rueda.



ADVERTENCIA Usar tornillos en U en la instalación de quintas ruedas puede ocasionar la destrucción del conjunto de la quinta rueda que, si no se evita puede causar lesiones graves o muertes.

17. Se recomienda usar rampas de acoplamiento de remolque en la parte trasera del larguero del tractocamión.
18. Cuando se monte sobre largueros de aluminio, siga las recomendaciones del fabricante del tractocamión. SAF-HOLLAND® cuenta con un ángulo de montaje estacionario diseñado para usar con largueros de aluminio. Comuníquese con SAF-HOLLAND® o con los distribuidores de la marca HOLLAND® para verificar la disponibilidad.
19. La placa superior de la quinta rueda puede retirarse de la placa base para facilitar la manipulación.

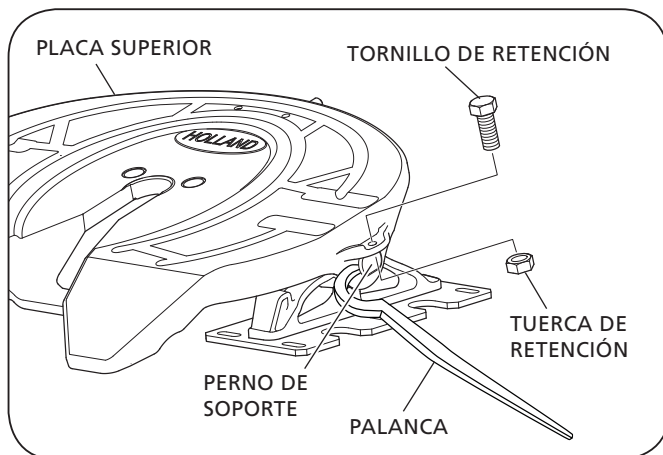
7. Remoción de la placa superior

1. Retire las tuercas y tornillos de retención del perno de soporte de ambos lados de la placa superior de la quinta rueda (**Figura 4**).
2. Con una palanca, jale los pernos del soporte de la placa superior de la quinta rueda (**Figura 4**).
3. Use un elevador capaz de soportar 500 lbs. (227 kg) para retirar la placa superior de la base de montaje. Coloque la quinta rueda en una superficie de trabajo plana y limpia.

NOTA: Siga las instrucciones publicadas del fabricante sobre la operación adecuada del elevador.

NOTA: El conjunto de la quinta rueda tiene interiores de bolsillo reemplazables instalados entre la placa superior de la quinta rueda y la base de montaje. Tenga cuidado de que al retirar la placa superior de la quinta rueda no se pierdan los interiores de bolsillo.

Figura 4



8. Ubicación de la quinta rueda

⚠ ADVERTENCIA Si la quinta rueda no se ubica correctamente por delante de la línea media del eje trasero o bogie, se puede perjudicar la estabilidad de la dirección y posiblemente hacer que el conductor pierda el control del vehículo lo cual, si no se evita, podría provocar muertes o lesiones graves.

Se presenta el siguiente procedimiento como ayuda para determinar la ubicación óptima de la quinta rueda para una aplicación en particular que implica una quinta rueda estacionaria o deslizante.

Antes de poder determinar la ubicación de la quinta rueda, se DEBERÁ obtener la siguiente información acerca del tractocamión:

Estipulación para el eje delantero*	= []
Estipulación para el eje trasero*	= []
Peso del tractocamión estacionado**	= []
Peso del tractocamión estacionado** Sobre el eje delantero	= []
Peso del tractocamión estacionado** Sobre el eje trasero	= []
Ancho del remolque	= []
Ajuste del perno rey (distancia entre el perno rey y el frente del remolque)	= []
Distancia desde la parte trasera de la cabina hasta la línea media del eje trasero o bogie	= []
Distancia desde el centro del perno rey hasta el centro del patín	= []

* Este es el menor valor especificado para eje/lanta/suspensión o el límite legal de peso en la carretera.

** Peso del camión estacionado listo para la carretera, incluye todos los accesorios (quinta rueda, combustible y conductor), pero sin el remolque o la carga.

Figura 5

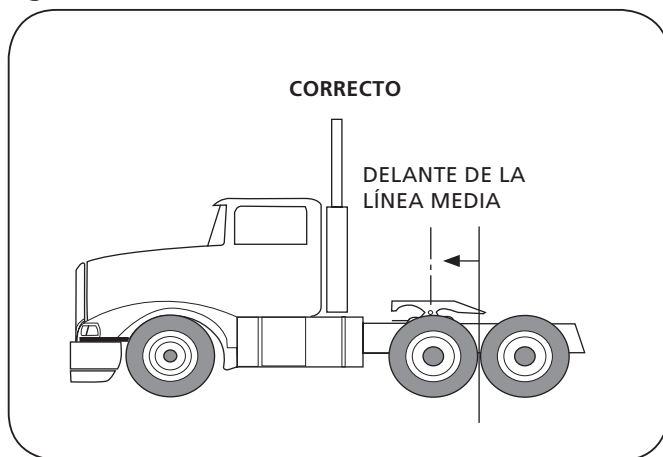
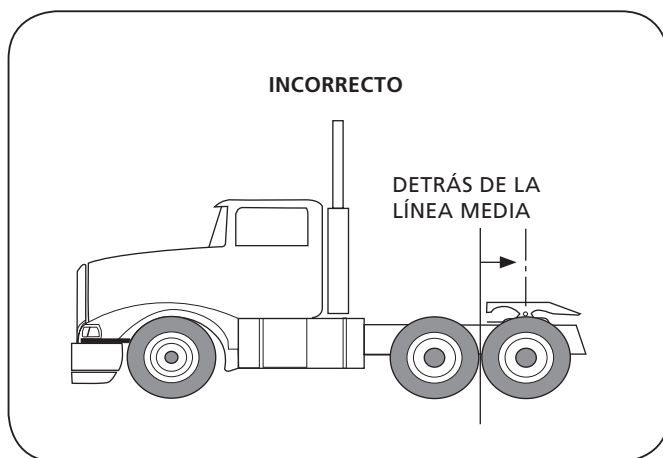
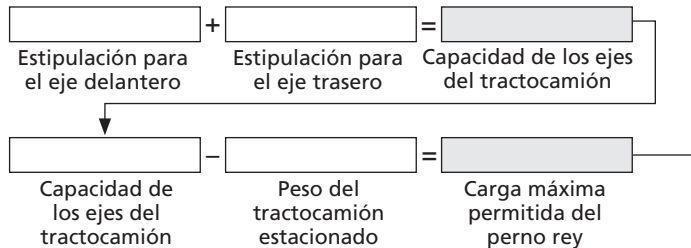


Figura 6



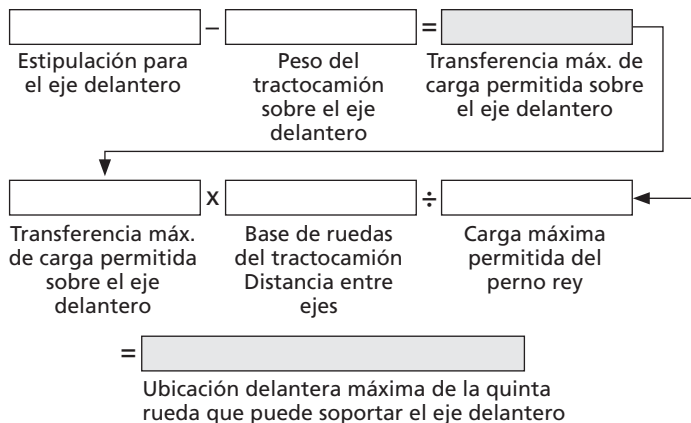
8.1 Determinación de la carga máxima permitida del perno rey del tractocamión (KP_{MAX})

1. Reste el peso del tractocamión estacionado de las capacidades de los ejes del tractocamión.



8.2 Determinación de la ubicación delantera máxima de la quinta rueda que el eje delantero puede soportar (D_{MAX})

1. Multiplique la transferencia de carga máxima permisible al eje delantero por la distancia entre las base de las ruedas del tractocamión y después divida entre la carga máxima permitida del perno rey.



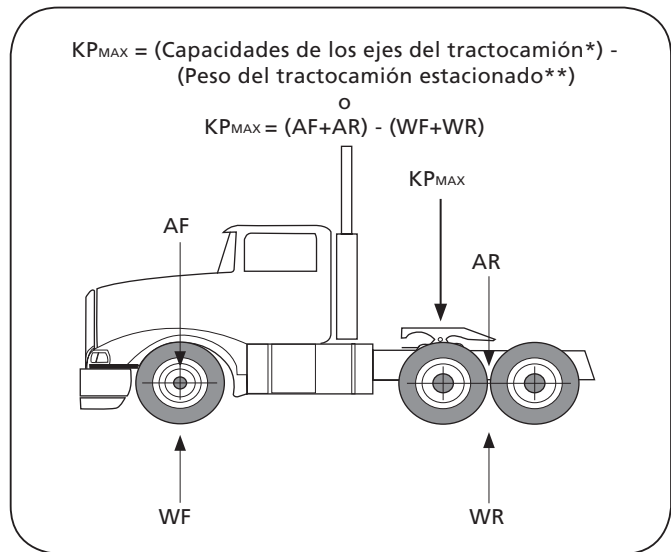
8.3 Determinación de la ubicación delantera máxima de la quinta rueda con margen adecuado de giro entre la cabina del tractocamión y el remolque ($DCFW_{MAX}$)

IMPORTANTE: Se DEBE tener un margen adecuado de giro entre el remolque y la cabina del tractocamión.

⚠ ADVERTENCIA

Si no se proporciona un margen adecuado de giro, podría haber una colisión entre el remolque y la cabina del tractocamión que, si no se evita, podría causar la muerte o lesiones graves.

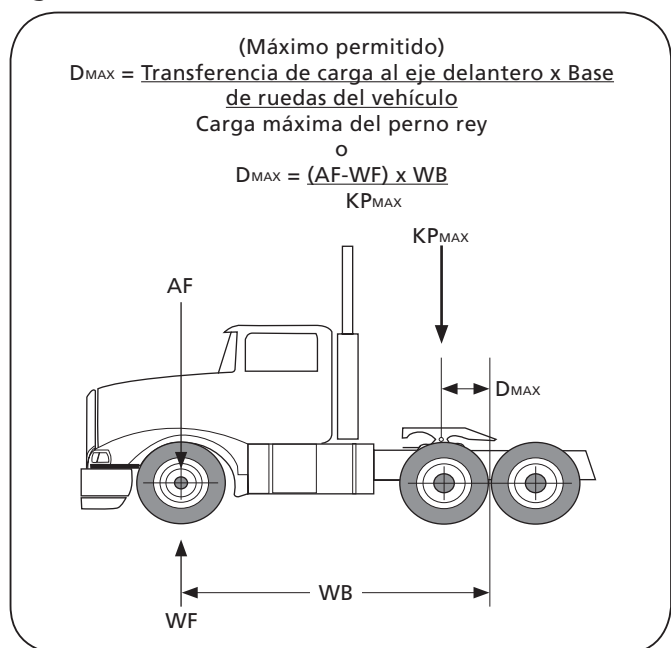
Figura 7



Legenda:

- KP_{MAX} = Carga máxima permitida del perno rey
- AF = Estipulación para el eje delantero*
- AR = Estipulación para el eje trasero*
- WF = Peso del tractocamión sobre el eje delantero**
- WR = Peso del tractocamión sobre el eje trasero**
- WB = Base de ruedas (distancia entre los ejes)

Figura 8



- Usando el ancho de su remolque y el ajuste del perno rey, use la **Tabla 2** para determinar el margen adecuado de giro detrás de la cabina.

Margen de giro detrás de la cabina

- Mida la distancia entre la parte trasera de la cabina del tractocamión y el eje trasero o línea media del eje trasero o bogie.
- Reste el el margen de giro detrás de la cabina (**Tabla 2**) de la distancia entre la parte trasera de la cabina del tractocamión y la línea media del eje trasero o bogie.

←

Distancia desde la parte trasera de la cabina hasta el eje trasero o la línea media del bogie

Margen de giro detrás de la cabina (**Tabla 2**)

=

Ubicación delantera máxima de la quinta rueda con margen adecuado de giro entre la cabina del tractocamión y el remolque

IMPORTANTE: Se puede necesitar un margen adicional para el tractocamión y el remolque si hay accesorios como frigoríficos, escape, soportes y repisas.

⚠ ADVERTENCIA Si no se proporciona un margen adecuado de giro, podría haber una colisión entre el remolque y la cabina del tractocamión que, si no se evita, podría causar la muerte o lesiones graves.

$$DCFW_{MAX} = CA - CFW$$

Leyenda:

- W = Ancho del remolque
- KP = Ajuste del perno rey (distancia entre el perno rey y el frente del remolque)
- CFW = Margen entre la cabina y la quinta rueda (**Tabla 2**)
- CA = Distancia entre la cabina del tractocamión y la línea media del eje trasero o bogie

Figura 9

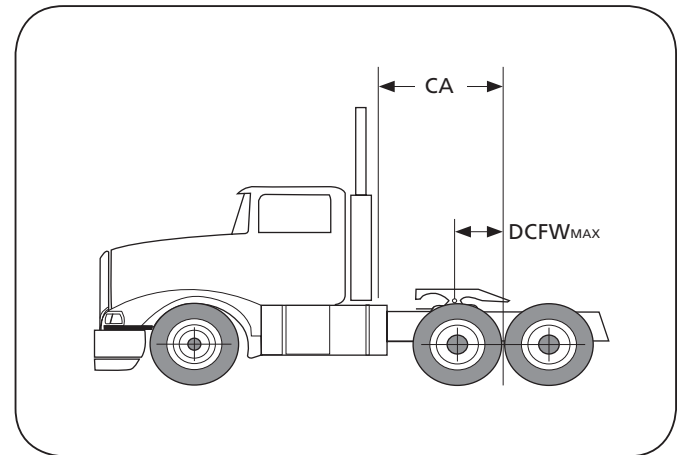


Figura 10

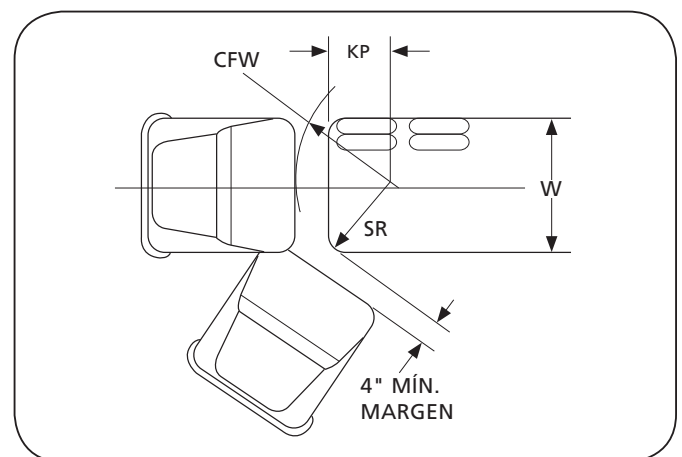


Tabla 2

Ajuste del perno rey (KP)	CFW	
	Ancho del remolque (W)	
	96"	102"
12"	53.5"	56.5"
18"	55.5"	58.5"
24"	58.0"	60.5"
30"	61.0"	63.5"
36"	64.0"	66.5"
42"	68.0"	70.0"
48"	72.0"	74.0"

8.4 Determinación de la ubicación delantera máxima de la quinta rueda con margen adecuado de giro entre las ruedas del tractocamión y el patín (DLWC_{MAX})

IMPORTANTE: Se DEBE tener un margen adecuado de giro entre las ruedas del tractocamión y el patín.

PRECAUCIÓN

Si no se proporciona un margen adecuado de giro, podría haber una colisión entre el tractocamión y el remolque que, si no se evita, podría causar daños en el tractocamión o en el remolque.

1. Mida la distancia entre la línea media del perno rey y la línea media del patín.
2. Use la medida encontrada en el Paso 1 y la **Tabla 3** para determinar la distancia máxima hacia delante con el margen adecuado para el giro del patín.

NOTA: Las dimensiones LWC y DLWC brindan 3" (75 mm) de margen entre el patín y las llantas del tractocamión suponiendo llantas de 10.0 x 20 pulgadas. Reste 1 pulgada de DLWC para llantas de 22 pulgadas.

Ubicación delantera máxima de la quinta rueda con margen adecuado de giro respecto al patín

Leyenda:

LWC = Distancia desde la línea media del perno rey hasta la línea media del patín

Figura 11

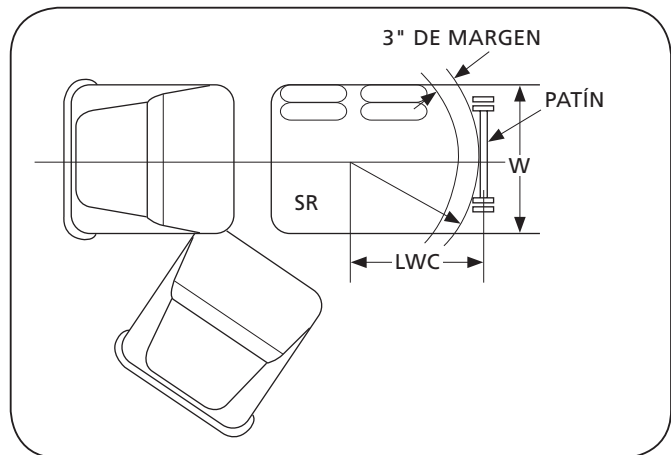


Tabla 3

LWC Distancia de la línea media del perno rey del remolque hasta la línea media del patín		DLWC Ajuste máximo de la quinta rueda por delante de la línea media del eje trasero o bogie
TRACTOCAMIÓN DE UN EJE	TRACTOCAMIÓN CON TÁNDEM DE EJES	
55"	71"	0"
56"	72"	2"
57"	73"	4"
58"	75"	6"
59"	76"	8"
60"	78"	10"
61"	80"	12"
62"	81"	14"
64"	83"	16"
65"	84"	18"
66"	86"	20"
67"	87"	22"
69"	89"	24"
70"	91"	26"
72"	92"	28"
73"	94"	30"
77"	99"	36"
87"	110"	48"

8.5 Determinación de la ubicación delantera máxima de montaje de la quinta rueda desde la línea media del eje trasero o bogie (incluida la distancia de desplazamiento).

1. Compare las distancias máximas hacia delante entre 8.2, 8.3 y 8.4 para encontrar el menor de los tres valores. Este valor es el máximo absoluto de la posición delantera de la quinta rueda y permitirá la distribución correcta de la carga en el tractocamión y dará los márgenes necesarios de giro entre el tractocamión y el remolque.

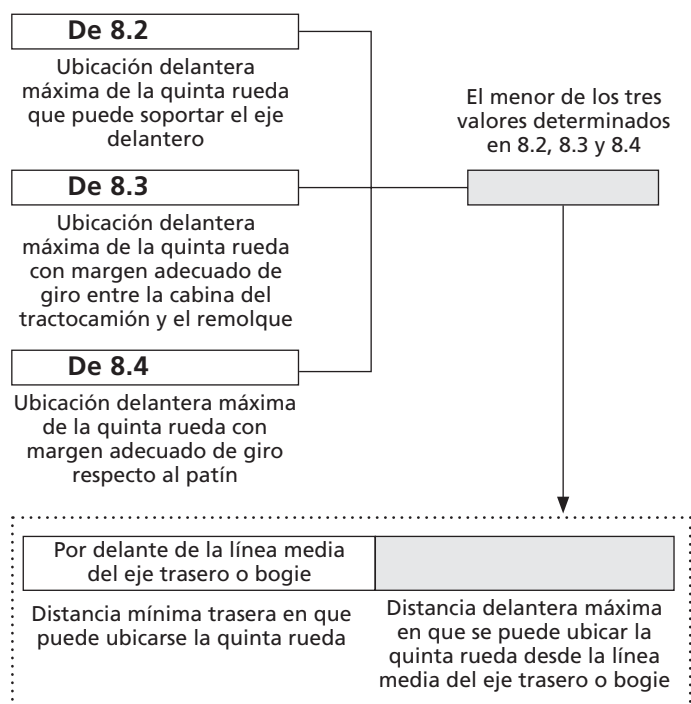
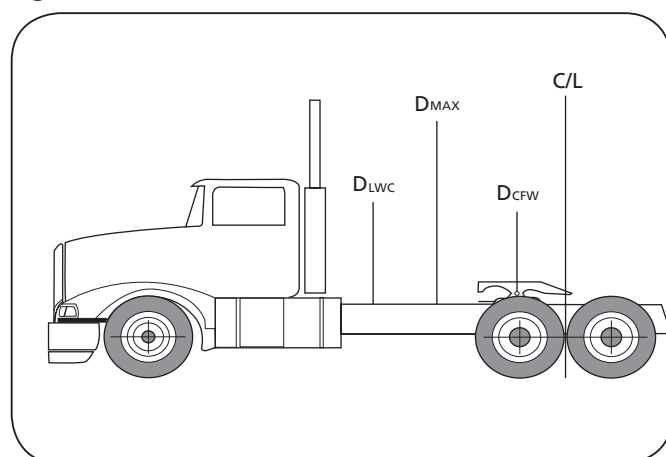


Figura 12



Ejemplo:

Usando la **Figura 12** como ejemplo, la quinta rueda se puede montar en cualquier punto entre la línea media del eje trasero (bogie) y DCFW en tanto la quinta rueda no pueda deslizarse más allá de esos puntos.

9. Montaje externo deslizante (ILS)

Los deslizadores ILS se identifican por la construcción moldeada de los soportes de deslizamiento y la ausencia de tornillos del seguro del émbolo fuera de los soportes (**Figura 13**).

Si NO se instalaron los ángulos, consulte la Sección 6 acerca del espesor del material. Use un tramo horizontal mínimo de 3" y vertical mínimo de 3 1/2". Es posible que se necesite un tramo horizontal mayor para largueros angostos. La longitud recomendada de cada placa de montaje es la misma que la de la placa base de montaje deslizante.

Además de la información proporcionada en la Sección 6, siga las recomendaciones de la **Figura 14**.

1. Coloque firmemente los ángulos de montaje en el larguero del tractocamión y acóplelos como se ilustra (**Figura 14**).

NOTA: Toda la longitud del ángulo de montaje de la quinta rueda debe asentarse nivelada en la parte superior del larguero del camión para evitar que se flexione el ángulo de montaje y para lograr una distribución uniforme del peso a lo largo del larguero del camión. Los ángulos DEBEN estar nivelados con la parte superior del larguero del camión.

PRECAUCIÓN

Si no se ubica el ángulo de montaje al ras con la parte superior del larguero del tractocamión se podría ocasionar una flexión excesiva de la base de montaje de la quinta rueda que, si no se evita podría ocasionar daños en la quinta rueda.

2. Ubique la base deslizante y céntrela entre la derecha y la izquierda y entre la parte frontal y la posterior sobre el ángulo de montaje. La **Figura 13** muestra la distancia desde la línea media de la quinta rueda hasta el último agujero de montaje, cuando la quinta rueda está en la posición más retrasada. Asegúrela en el lugar y perfore agujeros de 21/32" de diámetro usando la placa de montaje como plantilla si NO se cuenta con agujeros en el ángulo.
3. Alinee los agujeros de la placa de deslizamiento con los agujeros de montaje en el ángulo externo y atornille con tornillos grado 8, arandelas de acero cementado y tuercas de seguridad con bridas o tuercas de seguridad grado C de 5/8". Apriete hasta las recomendaciones del fabricante del tornillo. Use todos los agujeros de montaje de la quinta rueda.

NOTA: Ajuste la tuerca central, después en forma alternada las tuercas de cada lado comenzando con las de los extremos.

ADVERTENCIA

Si no fija adecuadamente la quinta rueda al larguero del tractocamión, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Figura 13

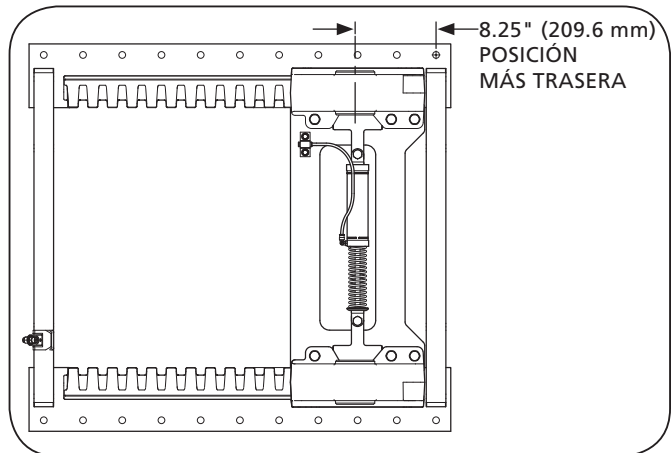
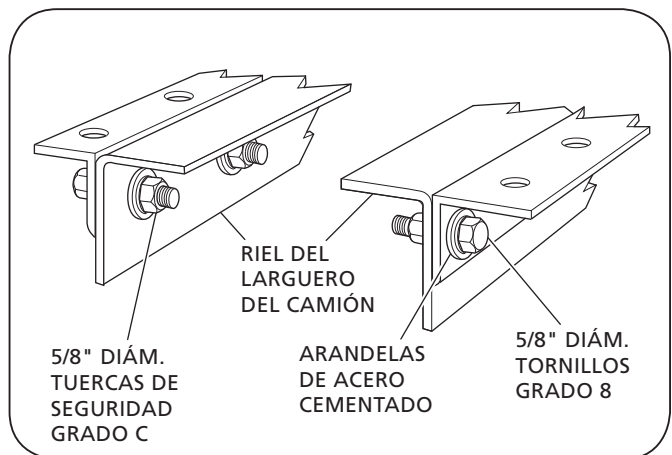


Figura 14



10. Montaje externo deslizante (Tradicional)

Los deslizadores tradicionales se identifican por la construcción fabricada de los soportes de deslizamiento y el tornillo del seguro del émbolo ubicado fuera de los soportes (**Figura 15**).

Si NO se instalaron los ángulos, consulte la Sección 6 acerca del espesor del material. Use un tramo horizontal mínimo de 3" y vertical mínimo de 3 1/2". Es posible que se necesite un tramo horizontal mayor para largueros angostos. La longitud recomendada de cada placa de montaje es la misma que la de la placa base de montaje deslizante.

Además de la información proporcionada en la Sección 6, siga las recomendaciones de la **Figura 16**. Se deberá hacer en la siguiente secuencia:

1. Coloque firmemente los ángulos de montaje en el larguero del tractocamión y acóplelos como se ilustra (**Figura 16**).

NOTA: Toda la longitud del ángulo de montaje de la quinta rueda debe asentarse nivelada en la parte superior del larguero del camión para evitar que se flexione el ángulo de montaje y para lograr una distribución uniforme del peso a lo largo del larguero del camión. Los ángulos DEBEN estar nivelados con la parte superior del larguero del camión.

PRECAUCIÓN

Si no se ubica el ángulo de montaje al ras con la parte superior del larguero del tractocamión se podría ocasionar una flexión excesiva de la base de montaje de la quinta rueda que, si no se evita podría ocasionar daños en la quinta rueda.

2. Ubique la base deslizante y céntrela entre la derecha y la izquierda y entre la parte frontal y la posterior sobre el ángulo de montaje. La **Figura 15** muestra la distancia desde la línea media de la quinta rueda hasta el último agujero de montaje, cuando la quinta rueda está en la posición más retrasada. Asegúrela en el lugar y perforo agujeros de 21/32" de diámetro usando la placa de montaje como plantilla si NO se cuenta con agujeros en el ángulo.
3. Alinee los agujeros de la placa de deslizamiento con los agujeros de montaje en el ángulo externo y atornille con tornillos grado 8, arandelas de acero cementado y tuercas de seguridad con bridas o tuercas de seguridad grado C de 5/8". Apriete hasta las recomendaciones del fabricante del tornillo. Use todos los agujeros de montaje de la quinta rueda.

NOTA: Ajuste la tuerca central, después en forma alternada las tuercas de cada lado comenzando con las de los extremos.

PRECAUCIÓN

Si no fija adecuadamente la quinta rueda al larguero del tractocamión, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Figura 15

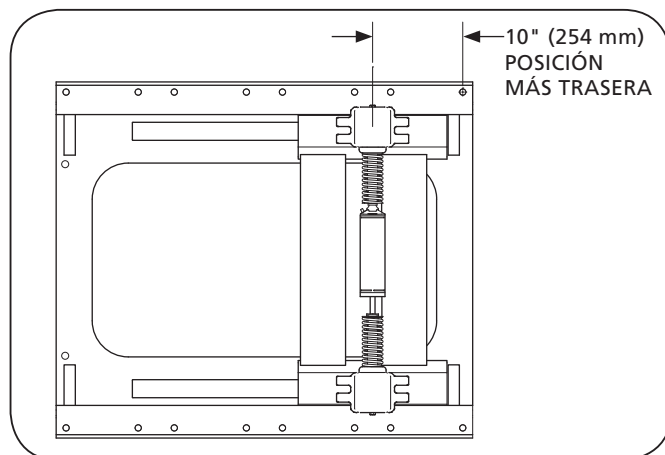
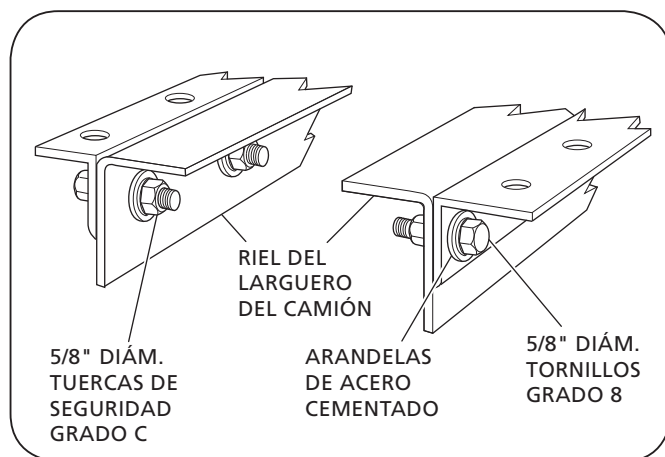


Figura 16



11. Montaje interno deslizante (ILS)

Los deslizadores ILS se identifican por la construcción moldeada de los soportes de deslizamiento y la ausencia de tornillos del seguro del émbolo fuera de los soportes. SAF-HOLLAND® ofrece dos (2) tipos de bases de deslizamiento de montaje con ángulo interno (ILS), las estilo "B" y las estilo "C", que requieren procedimientos de instalación diferentes.

NOTA: Los ángulos se DEBEN instalar en la placa base de la quinta rueda deslizante para facilitar el montaje. Consulte la Sección 6 acerca del espesor y el material de los ángulos. Use un ángulo de montaje que sea al menos 2" más largo que la base deslizante y que tenga una longitud mínima de 36" y un tramo mínimo vertical de 3 1/2".

La placa superior de la quinta rueda puede retirarse de la placa base para facilitar la manipulación. Consulte las instrucciones en la Sección 7 de este manual.

Ubique los ángulos sobre la placa deslizante para el ancho de larguero necesario. Asegúrese de mantener la placa centrada entre la derecha y la izquierda y entre la parte frontal y la posterior sobre los ángulos de montaje.

11.1 Soldadura de montaje estilo "B" (ILS)

Los montajes estilo "B" (ILS) están diseñados para adaptarse a diversos anchos de larguero del tractocamión. Para adecuarse al ancho del larguero específico del tractocamión, DEBERÁ elegirse el tamaño adecuado de los ángulos de montaje de la siguiente tabla.

ANCHO DE LOS LARGUEROS (INTERVALO)	ÁNGULO DE MONTAJE TRAMO HORIZONTAL
33-1/4" a 33-1/2"	3"
33-5/8" a 34-1/2"	3-1/2"
34-5/8" a 35"	4"

Suelde la base de deslizamiento como se ilustra (**Figuras 17 y 18**). La soldadura exterior debe tener una soldadura de filete de 3/8" ubicados ya sea sobre o entre las lengüetas, según el ancho del larguero. La soldadura interna debe tener filetes de 3/8" discontinuos que alternen con la soldadura externa, de manera que queden escalonados a lo largo del ángulo. Suelde también la placa base de la quinta rueda a la parte superior del ángulo en los extremos de la placa como se ilustra (**Figura 17**).

11.2 Soldadura de montaje estilo "C" (ILS)

Los montajes de estilo "C" (ILS) se deberán usar con ángulos estructurales según se especifica en la Sección 6. El tamaño del ángulo deberá ser de 3-1/2" de tramo horizontal y 4" de tramo vertical. Suelde la base de deslizamiento como se ilustra (**Figura 19**). Comience y termine las soldaduras al final de la placa.

Armado: Arme como se especifica en la Sección 6.

Figura 17

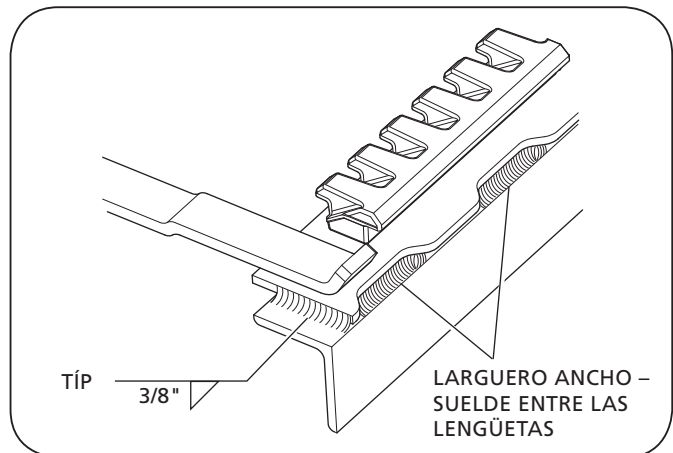


Figura 18

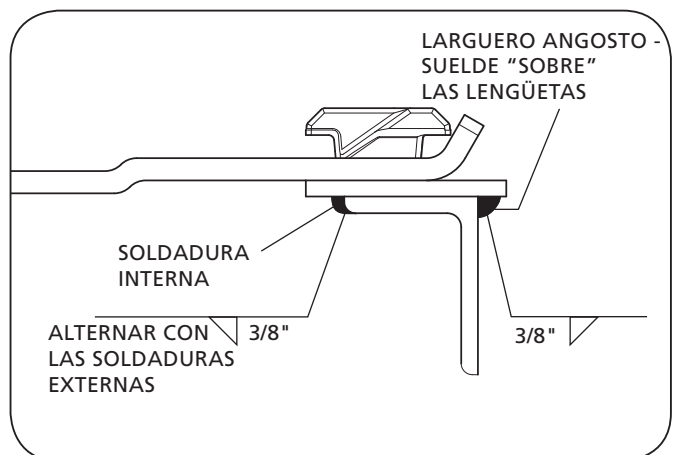
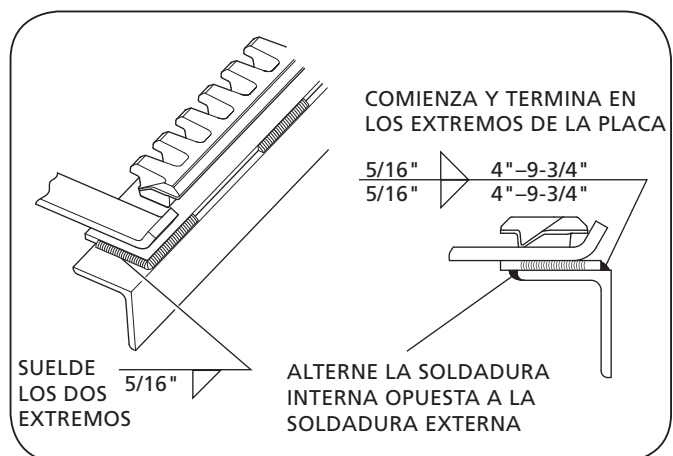


Figura 19



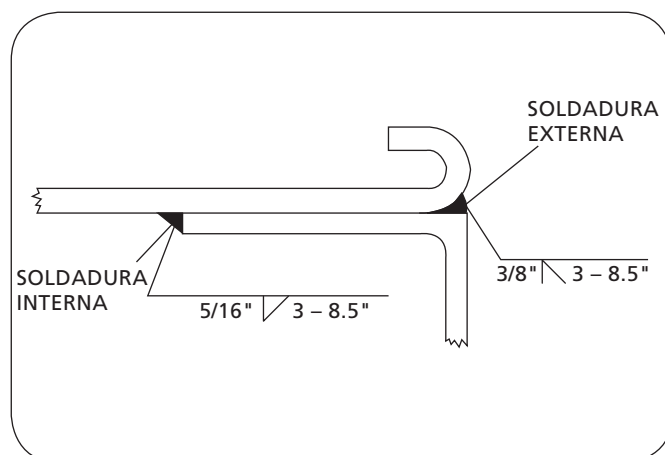
12. Montaje interno deslizante (Tradicional)

Los deslizadores tradicionales se identifican por la construcción fabricada de los soportes de deslizamiento y el tornillo del seguro del émbolo ubicado fuera de los soportes.

1. Los ángulos se DEBEN instalar en la placa base de la quinta rueda deslizante para facilitar el montaje. Consulte la Sección 6 acerca del espesor y el material de los ángulos.
2. Use un ángulo de montaje que sea al menos 2" más largo que la base deslizante y que tenga una longitud mínima de 36" y un tramo mínimo vertical de 3 1/2" y mínimo horizontal de 4".
3. La placa superior de la quinta rueda puede retirarse de la placa base para facilitar la manipulación. Consulte las instrucciones en la Sección 7 de este manual.
4. Ubique los ángulos sobre la placa deslizante para el ancho de larguero necesario. Asegúrese de mantener la placa centrada entre la derecha y la izquierda y entre la parte frontal y la posterior sobre los ángulos de montaje.
5. Suelde como se ilustra (**Figura 20**). Haga soldaduras de filete de 5/16" en la parte interna y soldaduras de surco de 3/8" en la parte externa con soldaduras espaciadas de 3" de largo centradas aproximadamente cada 8 1/2" (suelde 3", espacie 5 1/2"). Suelde en la parte interna los espacios opuestos respecto a la parte externa. Suelde también la placa base de la quinta rueda a la parte superior del ángulo en los extremos de la placa.

Armado: Arme como se especifica en la Sección 6.

Figura 20



13. Topes de deslizamiento (Montajes deslizantes tradicionales)

IMPORTANTE: Es responsabilidad del instalador asegurar que los topes de deslizamiento estén correctamente instalados en las cuatro (4) esquinas de la placa de deslizamiento.

⚠ ADVERTENCIA

Si no instala adecuadamente los topes de deslizamiento en las cuatro (4) esquinas de la placa de deslizamiento, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

1. Deslice el soporte hasta la posición más trasera y enganche los vástagos en la cremallera. Coloque los topes traseros debajo de la orilla rizada y deje cierto margen hasta el soporte (aproximadamente 1/8" (3.2 mm)). Asegure en el lugar. Esto debe colocar los topes aproximadamente entre 1/4" y 1/2" desde el borde posterior de la placa (**Figuras 21 y 22**).
2. Deslice el soporte adelante donde no estorbe y suelde los topes en su lugar como se ilustra (**Figuras 21 y 22**) con una soldadura de filete de 5/16".
3. Deslice el soporte hasta la posición más trasera y verifique el margen. Asegúrese de que los vástagos del soporte deslizante estén debidamente apoyados en la cremallera con todos los dientes enganchados. Vuelva a pintar según se necesite.

14. Liberación neumática del deslizamiento (ILS)

1. Coloque la válvula de control en la cabina de acuerdo con las instrucciones proporcionadas. Deberá ser de fácil acceso para el conductor, pero deberá estar protegida para evitar que se active accidentalmente.
2. Instale una línea de aire comprimido, con las conexiones adecuadas al puerto de "aire" o "entrada" de la válvula. Use una fuente de aire recomendada por el fabricante del tractocamión. Use conexiones y líneas adecuadas para la presión que se va a usar.
3. Asegúrese de que el suministro de aire a la quinta rueda y la base deslizante esté apagado.
4. Retire cualquier cobertura que pudiera haber en las conexiones roscadas y de unión. Retire cualquier cobertura de papel aluminio que pudiera haber en el cilindro neumático.
5. Conecte la línea enrollada de aire estirándola hasta la conexión de unión como se ilustra (**Figura 23**).

Figura 21

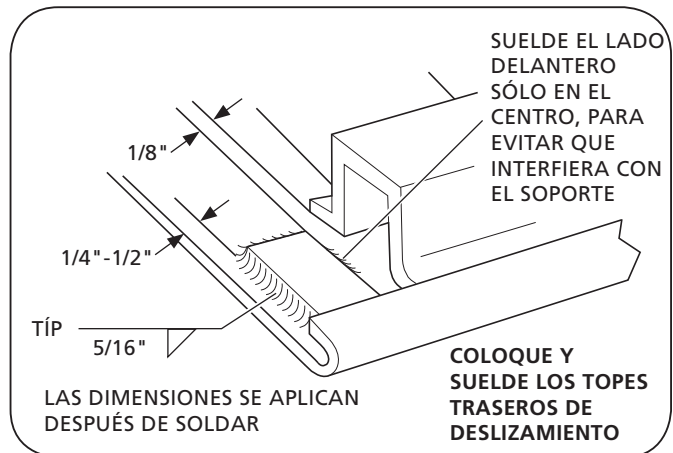


Figura 22

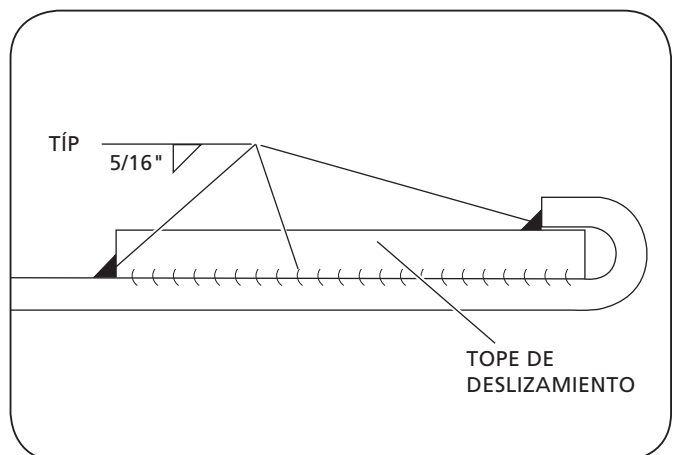
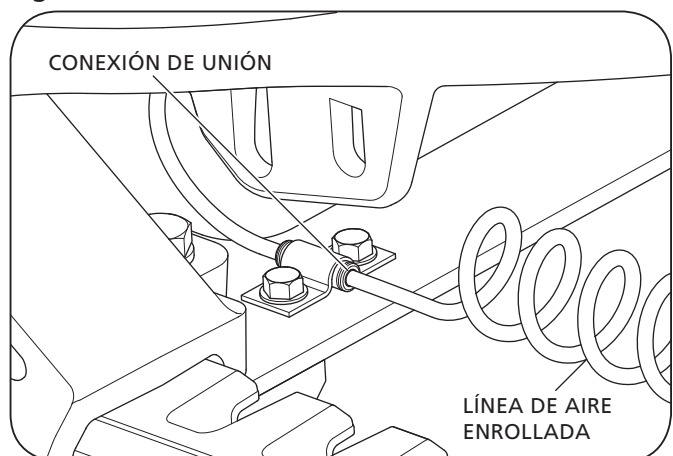


Figura 23



- Conecte la línea enrollada de aire estirándola hasta la conexión roscada en el separador como se ilustra (**Figura 24**). Si se producen interferencias entre las líneas de aire, la conexión roscada se puede reubicar en el orificio opcional del separador.
- Encienda el suministro de aire a la quinta rueda y la base deslizante; verifique que funcione correctamente.

15. Liberación neumática del deslizamiento (Tradicional)

Coloque la válvula de control en la cabina de acuerdo con las instrucciones proporcionadas. Deberá ser de fácil acceso para el conductor, pero deberá estar protegida para evitar que se active accidentalmente.

- Instale una línea de aire comprimido, con las conexiones adecuadas al puerto de "aire" o "entrada" de la válvula. Use una fuente de aire recomendada por el fabricante del tractocamión. Use conexiones y líneas adecuadas para la presión que se va a usar.
- Conecte una línea de aire entre el puerto "cil" o "salida" de la válvula y el lado activo del cilindro neumático. Si lo desea, puede colocar una conexión roscada en el frente de la placa base de deslizamiento. Use conexiones y líneas adecuadas para la presión que se va a usar y asegúrese de que la línea se coloque de manera que NO interfiera con ninguna operación o componente.
- Verifique el funcionamiento de la válvula y el cilindro.

16. Montaje externo estacionario de pie

Las quintas ruedas HOLLAND® con montaje de pie están pensadas para aplicaciones de montaje exterior sobre placas de montaje planas o corrugadas. Además de la información proporcionada en la Sección 6, se deberá seguir la secuencia indicada cuando se instale la quinta rueda con montaje de pie:

- Atornille el ángulo de montaje externo al larguero del camión según las recomendaciones de la **Figura 25**. La parte superior del ángulo de montaje DEBE estar al ras de la parte superior del larguero del tractocamión.

PRECAUCIÓN

Si no se ubica el ángulo de montaje al ras con la parte superior del larguero del tractocamión se podría ocasionar una flexión excesiva de la base de montaje de la quinta rueda que, si no se evita podría ocasionar daños en la quinta rueda.

El ángulo de montaje debe ser 1" (25.4 mm) más largo que la placa de montaje. Los requisitos mínimos para el tamaño del ángulo de montaje son los siguientes: 3" de tramo horizontal, tramo vertical de 3-1/2" y 36" de largo. Consulte la Sección 6 acerca de los requisitos de espesor y material de los ángulos.

Figura 24

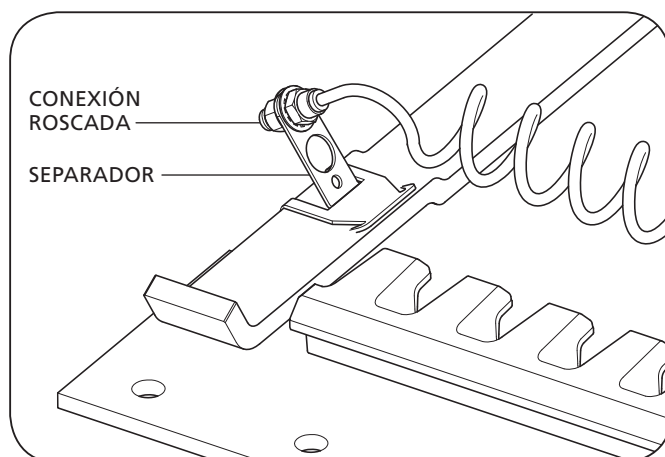
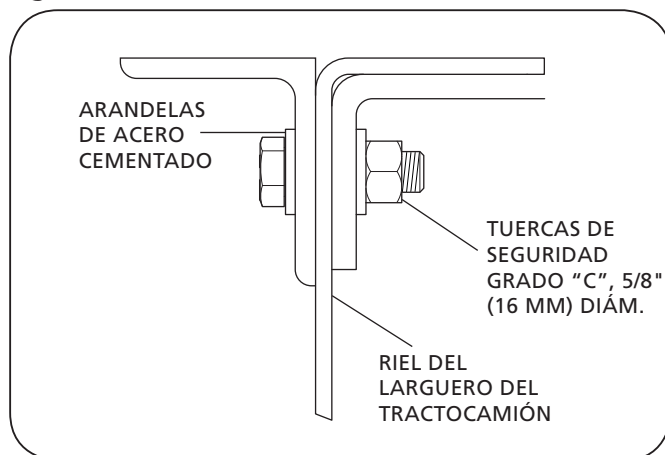


Figura 25



2. Consulte la **Figura 26** acerca de los requisitos adecuados para la ubicación de los agujeros de montaje.
3. Para modelos de altura baja FW35, FW33 y FW31 (6 pulgadas -15 cm - o menos) se necesita una abertura en la placa de montaje para lograr la articulación adecuada (**Figura 27**).
4. Coloque firmemente la placa de montaje y la quinta rueda sobre los ángulos de montaje externos.
5. Atornille la placa de montaje y la quinta rueda sobre los ángulos de montaje externos como se ilustra (**Figuras 26 y 28**). Apriete hasta las recomendaciones del fabricante del tornillo.

ADVERTENCIA Si no fija adecuadamente la quinta rueda al larguero del tractocamión, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Armado: Arme como se especifica en la Sección 6.

Figura 26

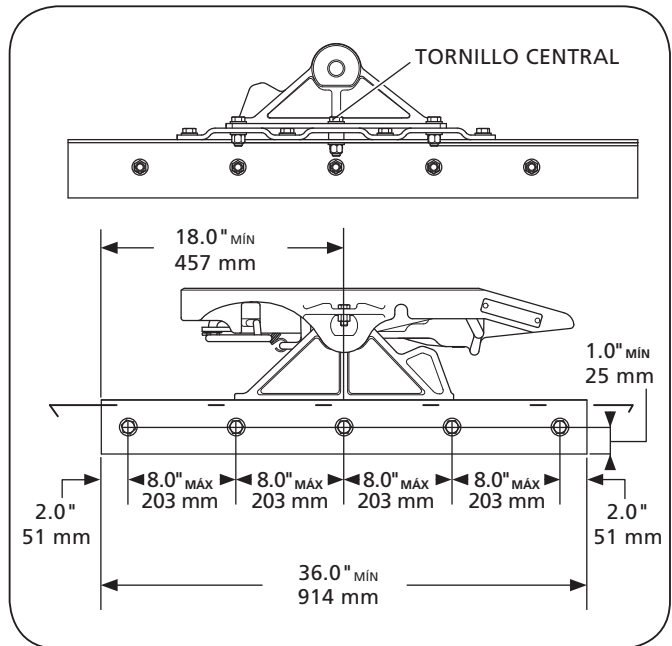


Figura 27

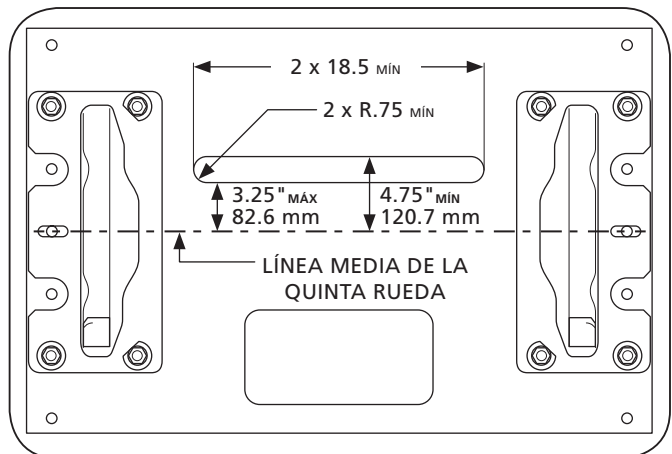
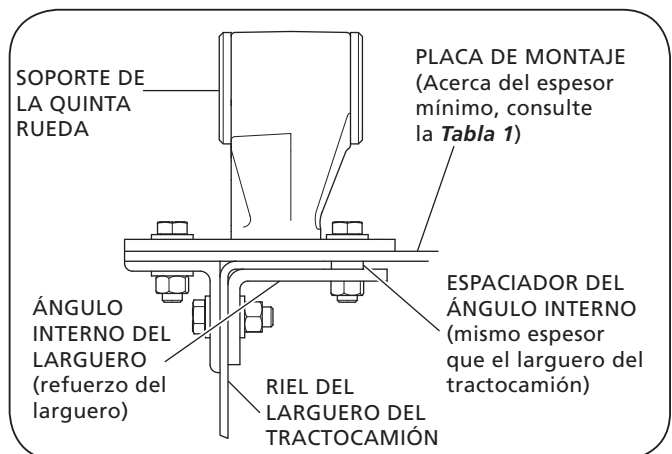


Figura 28



17. Montaje estacionario de placa integrado externo

Las quintas ruedas HOLLAND® con montaje de placa integrado son una aplicación de peso reducido y montaje exterior que se instalan directamente sobre ángulos de montaje. Además de la información proporcionada en la Sección 6, se deberá seguir la secuencia indicada cuando se instale la quinta rueda con montaje de placa integrado:

1. Atornille el ángulo de montaje externo al larguero del tractocamión según las recomendaciones de la **Figura 29**. La parte superior del ángulo de montaje DEBE estar al ras de la parte superior del larguero del tractocamión.

PRECAUCIÓN

Si no se ubica el ángulo de montaje al ras con la parte superior del larguero del tractocamión se podría ocasionar una flexión excesiva de la base de montaje de la quinta rueda que, si no se evita podría ocasionar daños en la quinta rueda.

El ángulo de montaje debe ser 1" (25.4 mm) más largo que la placa de montaje. Los requisitos mínimos para el tamaño del ángulo de montaje son los siguientes: 3" de tramo horizontal, tramo vertical de 3-1/2" y 36" de largo.

2. Consulte la Sección 6 (**Tabla 1**) acerca de los requisitos de espesor y material de los ángulos.
3. Consulte la **Figura 30** acerca de los requisitos adecuados para la ubicación de los agujeros de montaje.
4. Coloque firmemente la quinta rueda sobre los ángulos de montaje externos.

Figura 29

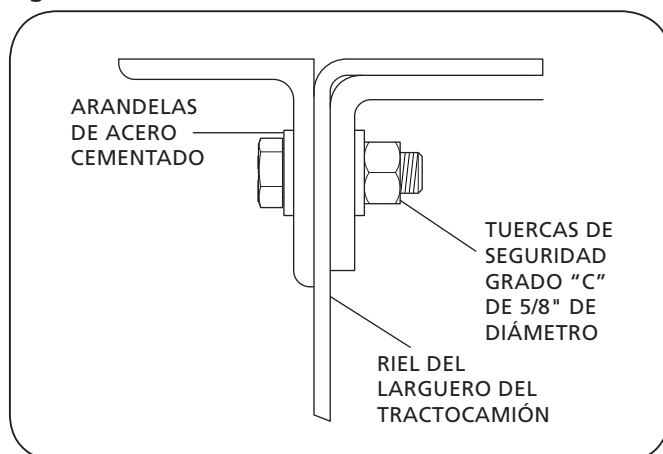
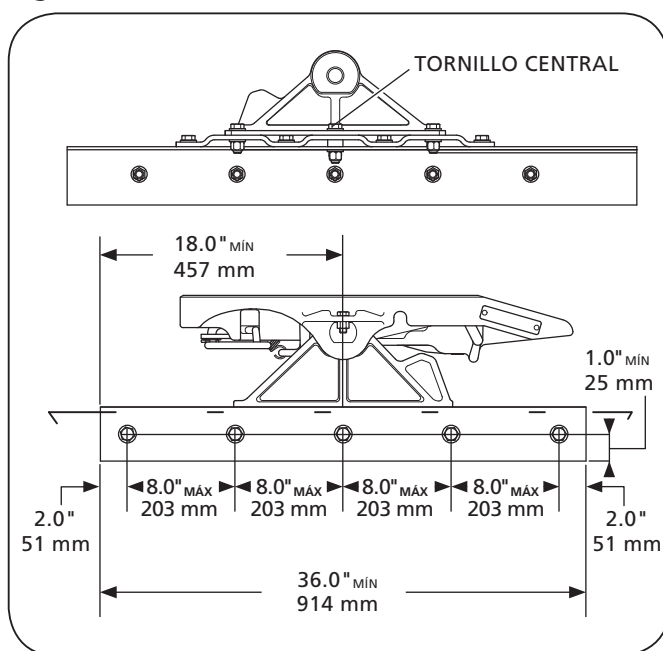


Figura 30



5. Atornille la quinta rueda sobre los ángulos de montaje externos como se ilustra (**Figura 31**). Apriete hasta las recomendaciones del fabricante del tornillo.

ADVERTENCIA Si no fija adecuadamente la quinta rueda al larguero del tractocamión, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Armado: Arme como se especifica en la Sección 6.

18. Montaje estacionario con ángulos internos

Las quintas ruedas con ángulo de montaje estándar de HOLLAND® están provistas del soporte de montaje soldado en el centro de un ángulo estándar de 4" x 4" x 36" de largo para alcanzar una dimensión específica del ancho del larguero. Están disponibles diversas alturas, anchos de larguero y tamaños de ángulo. Además de la información proporcionada en la Sección 6, se deberá seguir la secuencia indicada cuando se instale la quinta rueda con montaje de ángulo:

1. Verifique la distancia entre los ángulos de montaje y ancho del larguero del tractocamión para asegurar un ajuste adecuado cuando la quinta rueda está instalada en el tractocamión.
2. Consulte la Sección 17 acerca de los requisitos adecuados para la ubicación de los agujeros de montaje.
3. Coloque firmemente el ángulo de montaje en el larguero del tractocamión.
4. Atornille los ángulos al larguero del tractocamión según las recomendaciones de la **Figura 32**.

ADVERTENCIA Si no fija adecuadamente la quinta rueda al larguero del tractocamión, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Armado: Arme como se especifica en la Sección 6.

Figura 31

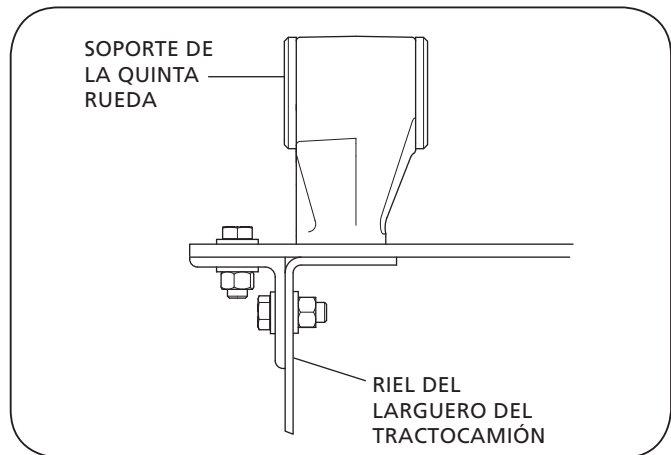
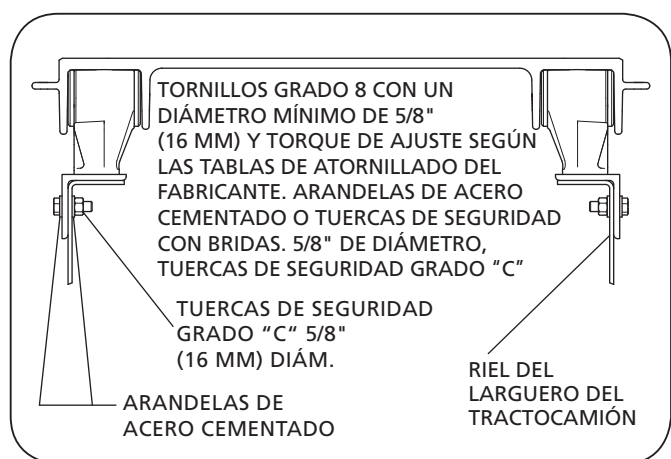


Figura 32



19. Montaje estacionario sólo de soporte

Las quintas ruedas HOLLAND® para montaje sólo con soporte están soldadas sobre el producto que se puede montar en diversas configuraciones. El siguiente es el procedimiento recomendado para soldar las variaciones de la aplicaciones con soporte estándar en carretera.

1. Revise las **Figuras 33, 34 y 35** en busca del soporte específico usado en la aplicación. Siga el procedimiento recomendado de soldadura que se muestra.
2. Para la fabricación del ángulo, el ángulo de montaje se deberá extender como mínimo 18" (457 mm) hacia adelante y no menos de 12" (305 mm) hacia atrás del punto de pivote. La longitud mínima del ángulo es 36".
3. Los soportes deben estar colocados de forma que la quinta rueda se pueda montar adecuadamente sobre los soportes cuando esté sujeta a los largueros del tractocamión.
4. Consulte la Sección 6 (**Tabla 1**) acerca de los requisitos de espesor de los ángulos.
5. Para instalar después de soldar siga las instrucciones para montaje de quinta rueda estacionaria para el estilo de montaje estacionario con ángulos internos en la Sección 18.

⚠ ADVERTENCIA

Si no fija adecuadamente la quinta rueda al larguero del tractocamión, podría ocasionar la separación del tractocamión y el remolque que, si no se evita, podría causar la muerte o lesiones graves.

Armado: Arme como se especifica en la Sección 6.

Figura 33

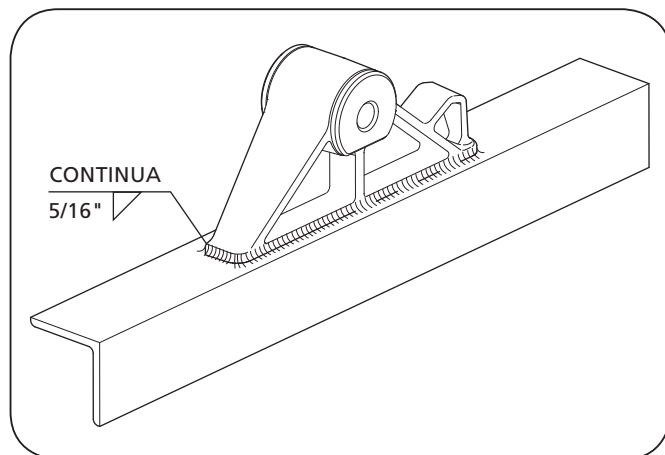


Figura 34

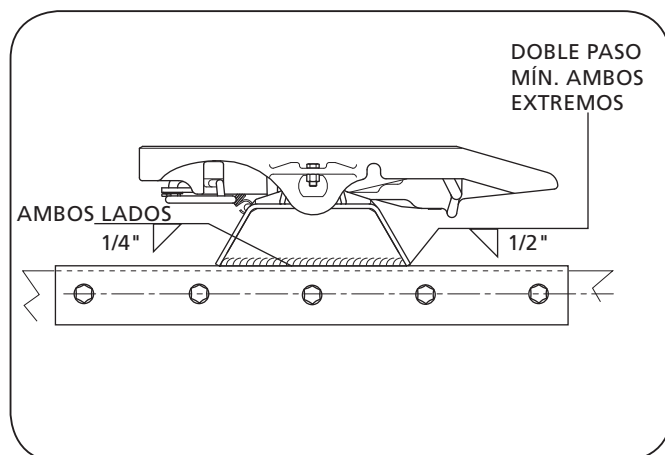
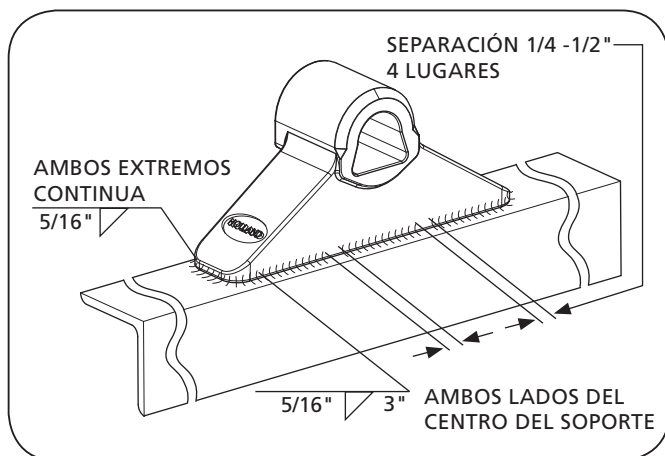


Figura 35



20. Instalación de la placa superior

1. Para quintas ruedas con interiores de bolsillos: Si el interior de los bolsillos se desprende de la fundición de la quinta rueda, limpie el área de los bolsillos y aplique una cinta de doble adhesión en el fondo de los bolsillos. Instale el interior de los bolsillos presionando hacia adentro (**Figura 36**).
2. Use un elevador capaz de soportar 500 lb (227 kg), instale la placa superior de la quinta rueda en su placa de montaje.

NOTA: Siga las instrucciones publicadas del fabricante sobre la operación adecuada del elevador.

3. Instale los pernos de soporte a través de la placa superior de la quinta rueda y la base de montaje y fíjelos con los tornillos y tuercas de retención del perno de soporte (**Figura 37**). Apriete los tornillos de retención hasta las recomendaciones del fabricante.

Figura 36

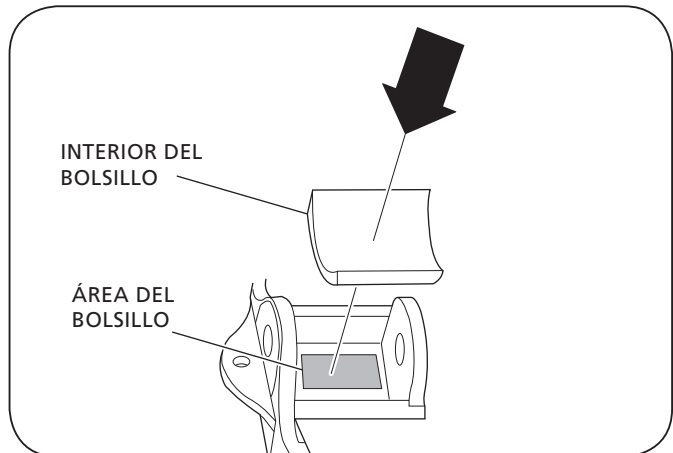
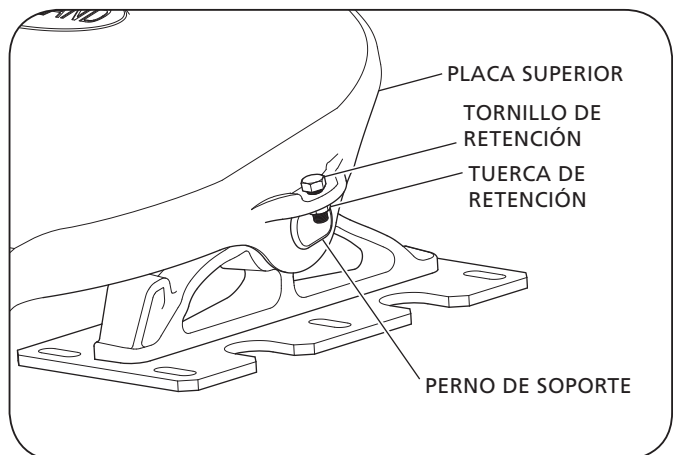


Figura 37









From fifth wheel rebuild kits to suspension bushing repair kits, SAF-HOLLAND Original Parts are the same quality components used in the original component assembly.

SAF-HOLLAND Original Parts are tested and designed to provide maximum performance and durability. Will-fits, look-alikes or, worse yet, counterfeit parts will only limit the performance potential and could possibly void SAF-HOLLAND's warranty. Always be sure to spec SAF-HOLLAND Original Parts when servicing your SAF-HOLLAND product.

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