



Safe-Stop[®] 180 TMA

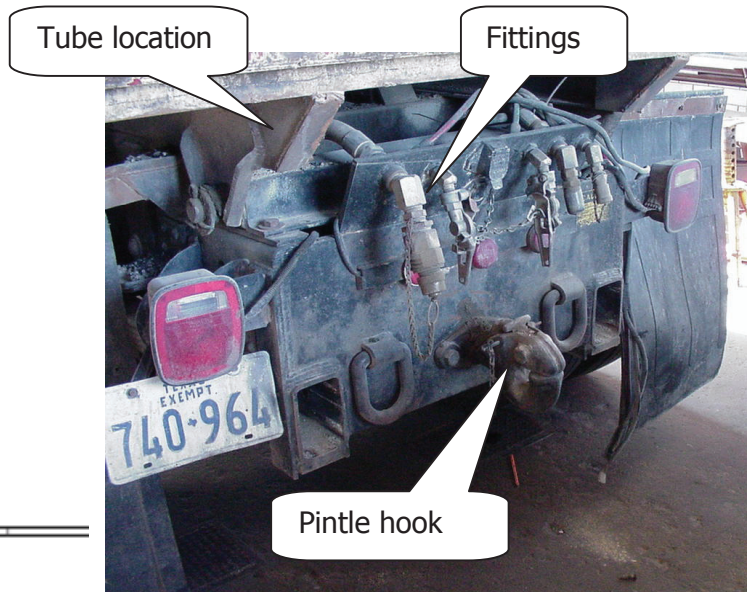
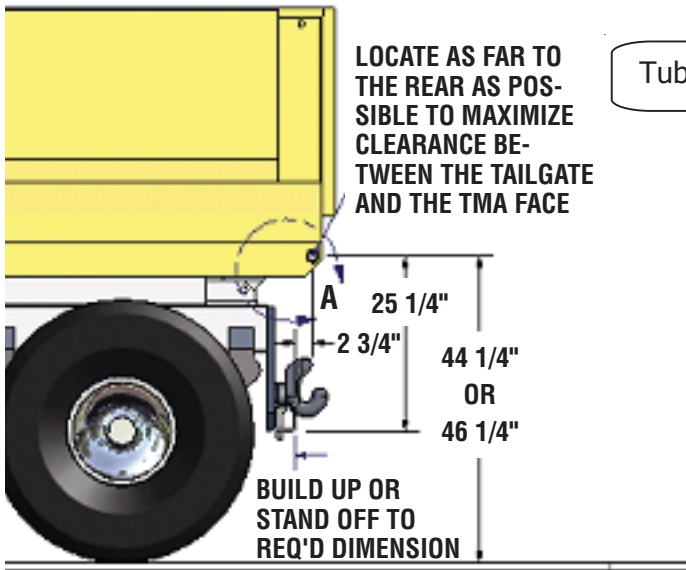
MODEL 9182 TRUCK MOUNTED ATTENUATOR

INSTALLATION MANUAL ADDENDUM

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

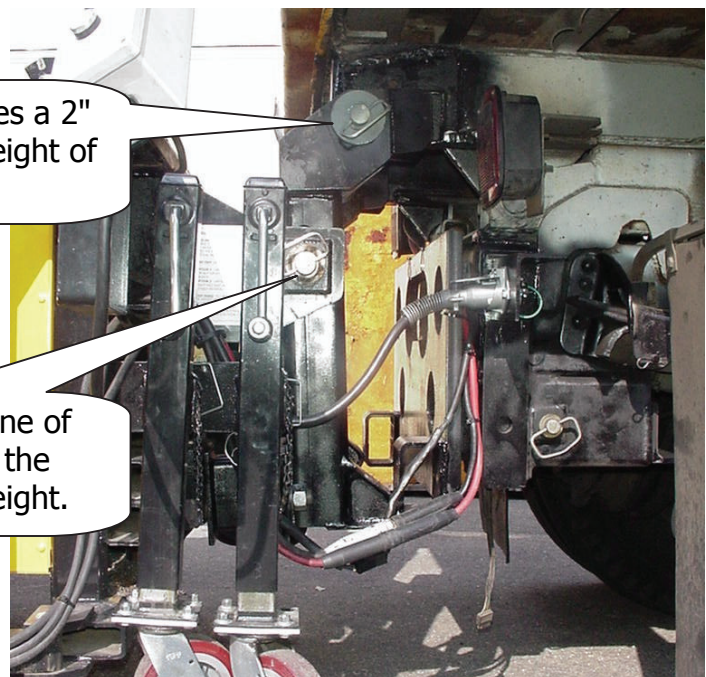
The first step in installing a 9182 Quick Mount TMA is to determine the truck dimensions and locations of the installation tubes and interface plates. These tubes are welded into the dump bed support frame and their location from the road surface is important. Also, determine if there are any protrusions from the back of the truck, i.e. pintle hook, hydraulic and air fittings, then modifications will be necessary to remove or relocate. See attached drawings.



The Quick Mount TMA interface brackets will account for a 2" variance in elevation on the bed frame. The dimension of 44 1/4" or 46 1/4" for the location to weld the mounting tubes into the bed frame will locate the system for proper ride height. In addition, there is a 2" variance for loaded/unloaded ride height.

44 1/4" or 46 1/4" provides a 2" variance for the start height of the System.

Pinning the System to one of these holes can change the loaded/unloaded ride height.

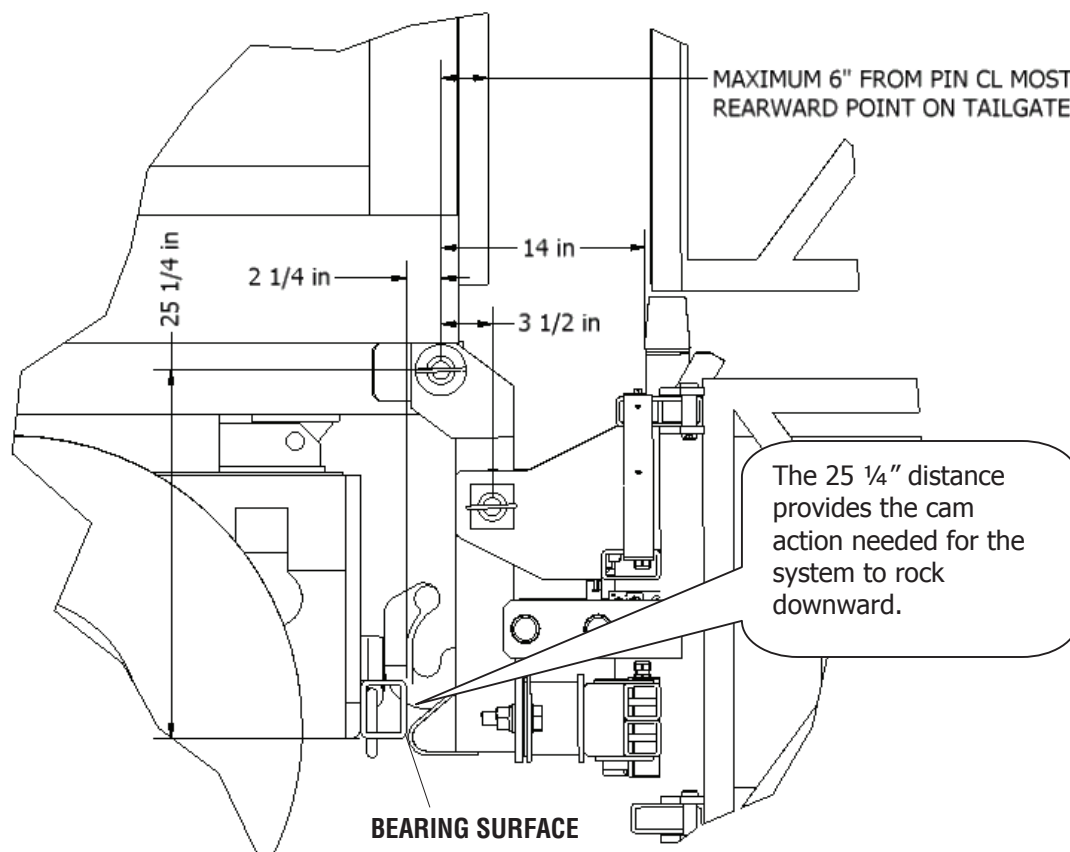


Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

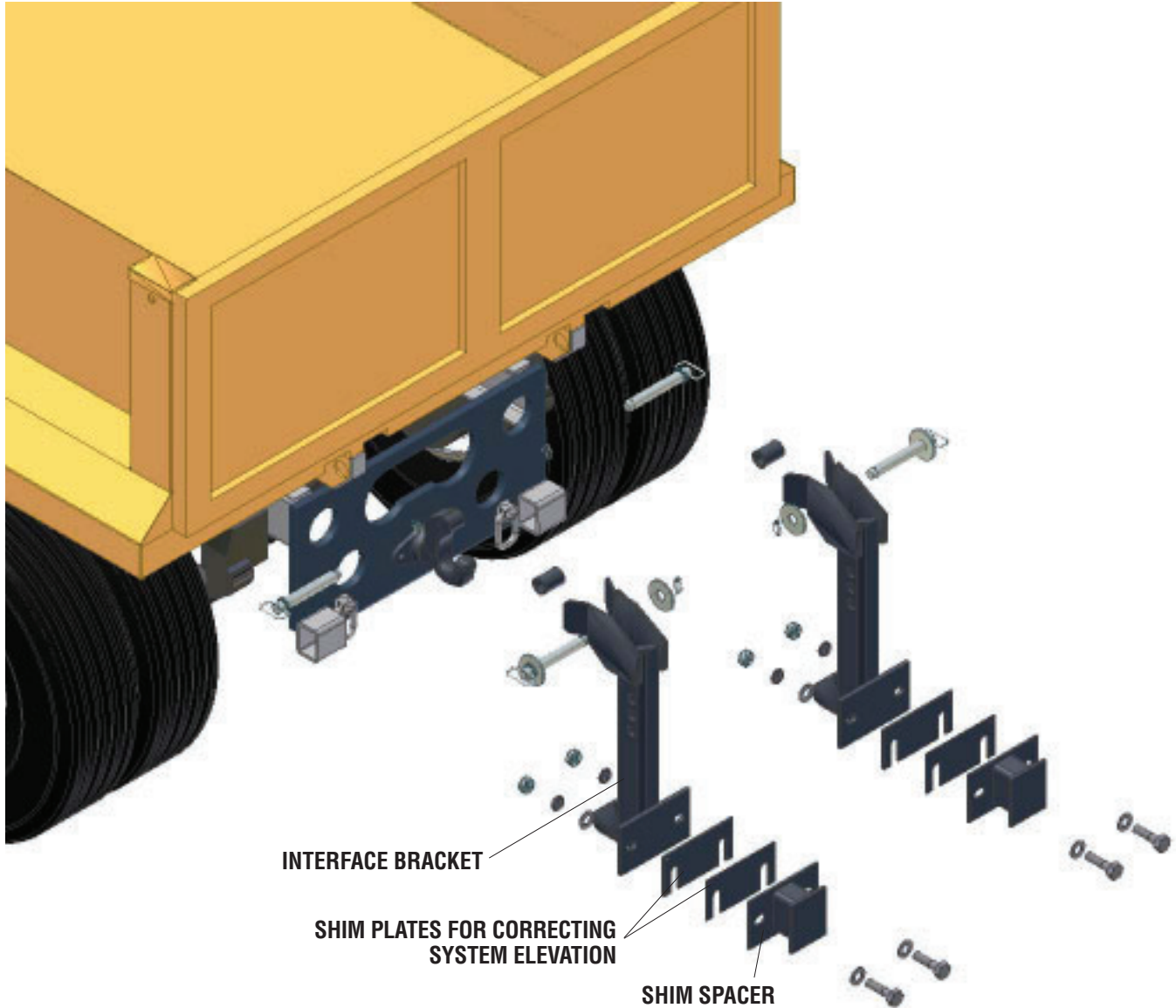
The second step is to locate the bearing plates for the toe of the interface brackets. The lower edge of the bearing plate is located $25 \frac{1}{4}$ " inches from center of the welded tubes and set back $2 \frac{3}{4}$ ". When the bed is raised the interface tubes move downward and the toe of the interface bracket slips off allowing the bracket to move forward. This allows the TMA to tilt rearward as the bed lowers the system.

With the tubes welded into the bed frame, attach the interface brackets to the welded tubes with the pins provided. Look at the toe of the interface bracket in relation to the surfaces on the truck. The pintle plate or a build up of plates can provide the bearing surface needed for the interface bracket toes to ride on. The edge of the bearing plate needs to be rounded with a smooth surface for the toes to move across. See attached drawings for details.



Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount



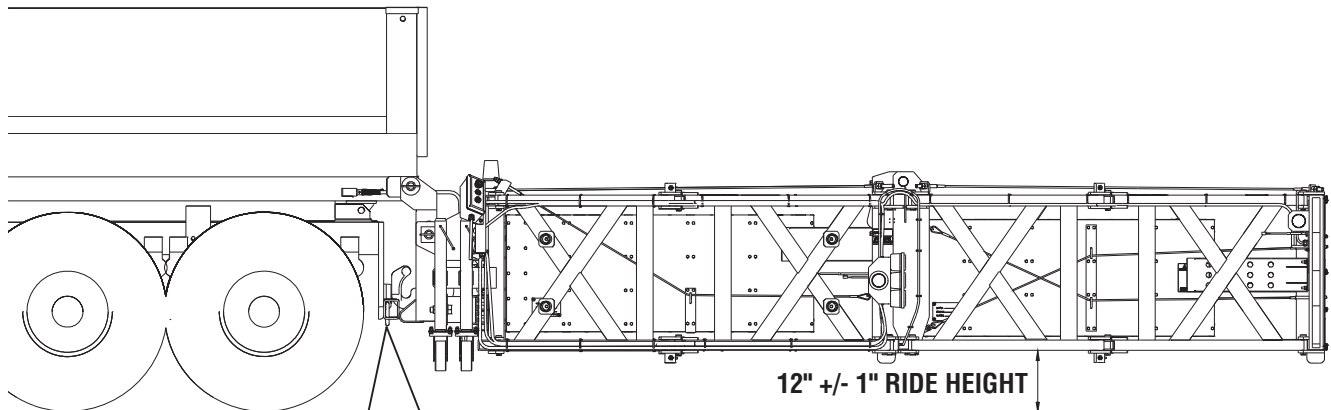
Detail B

With the interface brackets attached and properly supported, attach the 9182 shim spacers to the interface brackets with the provided hardware. Now attach the 9182 system to the interface brackets with the supplied pins. See attached drawings.

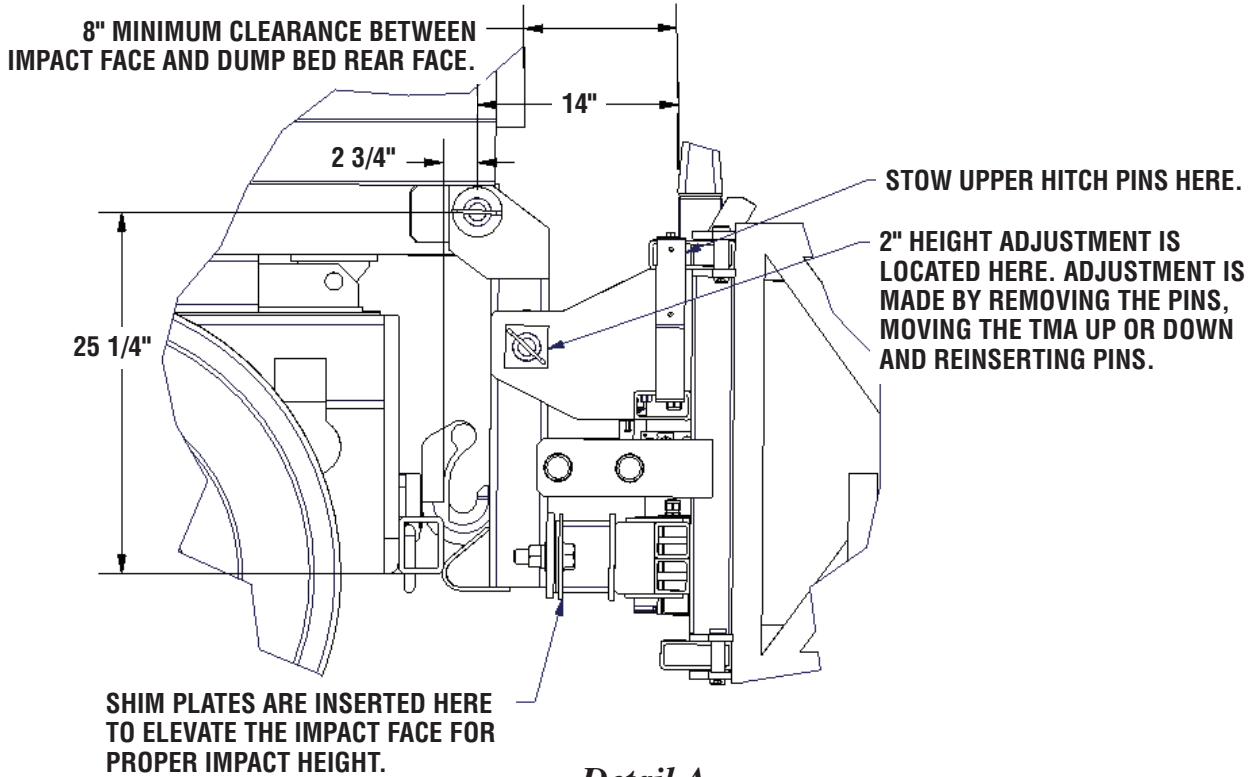
Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

Next, the system needs to be leveled for the ride height of 12" +/- 1" with the provided shims. Insert the shims as needed in between the interface bracket and 9182 spacer. Tighten the attachment hardware after verifying the 12" +/- 1" ride height. See the TMA installation instructions and drawings.



INSERT THE SHIM HERE



Detail A

Make all electrical connections, i.e. lights, hydraulic power and ground. Relocate truck taillights if needed. Tilt the system to its 180-degree position checking for interferences or obstructions.

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

Procedure to remove the 9182 TMA

Step 1

Locate the truck and TMA on a level area.

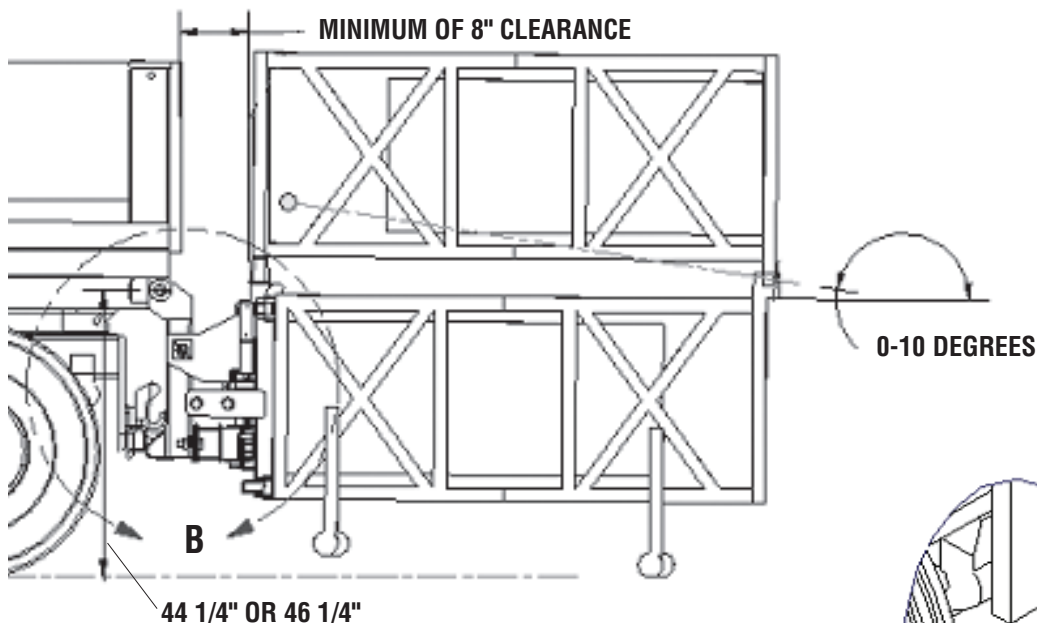
Step 2

Attach the four jacks to the TMA; two near the backup and two near the mid-frame. Extend the rear jacks to the ground and the front jacks to 1 1/2" from the ground.

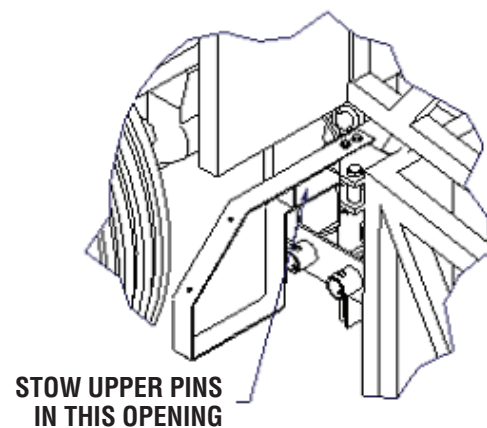
Step 3

Raise the bed approximately 10 degrees. This should lower the TMA so that it rests on the jacks. It may REQUIRE that the TMA be unfolded about 1-10 degrees so the impact face misses the tailgate.

Once the upper pins are loose, slight adjustments are made with the front jacks. Remove the upper pins, stow them in the control box mounts. Disconnect the four electrical cables. Lower the bed and drive forward.



Driver Side View



Detail B

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

Procedure to attach the 9182 TMA

Step 1

Back the truck up to the TMA until they touch attach the electrical connections. If there is interference, unfold the TMA about 1-10 degrees and set the Emergency Stop button to hold the TMA in that position. Align the interface brackets to the bed rails, then tilt the bed about 10 degrees. With the TMA in an angled position, the rubber bumpers will be unloaded, freeing the two interface brackets. Align the holes in the bed rails with the large opening in the interface brackets. Insert the main pins into the interface brackets attaching the washers and keeper pins. Lower the bed to its rest position, this will lift the TMA release the Emergency Stop button and fold the TMA.

Step 2

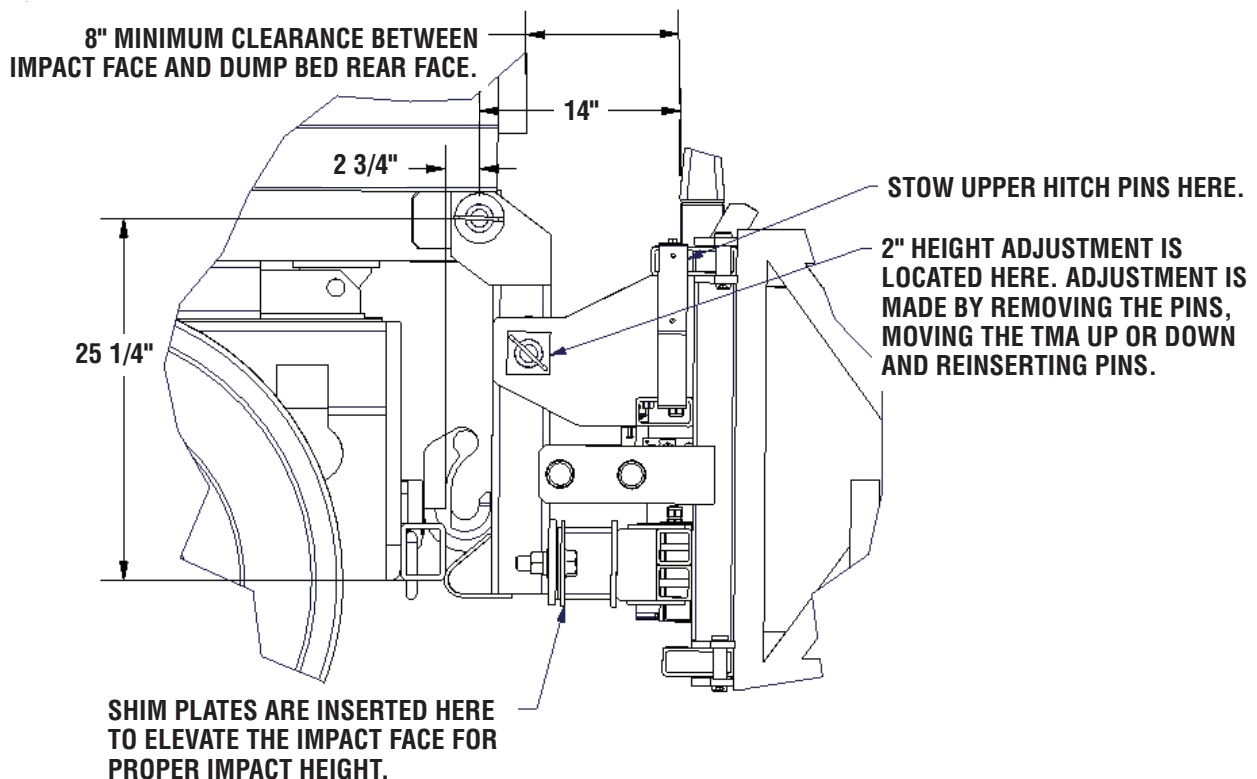
Remove the jacks from the system, two near the backup and two near the mid-frame. Stow them on the mounts provided on the sides of the backup.

Step 3

Check the ride height. It should be 12" +/- 1".

There are two ways to adjust the ride height:

- If the ride height is not the same front to back, add or remove shims from the interface brackets and spacers.
- If the overall height is high or low, adjust the TMA height with the three holes and pin in the interface brackets.



Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY
1	3526081-0000	CARTRIDGE A ASSEMBLY, TMA 9180	1.00
2	3526082-0000	CARTRIDGE B ASSEMBLY, TMA 9180	1.00
3	3526022-0000	ATTACHMENT ASSY, INTERFACE, TMA9181QM	1.00
4	2750986-0000	INSTALLATION INSTRUCTIONS, TMA9182	1.00
5	2735831-3500	MATERIAL SAFETY INFORMATION NOTICE	1.00
6	2724431-0000	SOCKET/FEMALE, 7-PIN	1.00
7	3526840-0000	SUPPORT FRAME ASSY, 9182, QM	1.00
8	3526191-0000	SUPPORT FRAME MISC HARDWARE, TMA9181	1.00
8A	2724244-0000	JACK ASSY, 9182	4.00
8B	2708011-0100	WASHER, FLAT, 1/2ID X 1 3/8OD, P	22.00
8C	2742341-0000	CABLE, 1/4X79, STUD W/THIMBLE	6.00
8D	2728803-0000	SHACKLE, ANCHOR, 1/4	6.00
8E	2715344-0000	SPRING, DIE, 1 1/4 OD X9/16X1 1/2	6.00
8F	2742343-0000	RELEASE CABLE ASSY, 9180	4.00
8G	2708041-0100	WASHER, LOCK, 3/8, P	12.00
8H	2704031-0100	NUT, HX, 3/8, P	12.00
8I	2751764-0000	SIDE GUIDE, BAY 2, 9181, PT	2.00
8J	2751765-0000	SIDE GUIDE, BAY 1, 9181, PT	2.00

* PARTS LIST CONTINUES ON SHEET 2

FOR ITEM 8B ATTACHMENT
SEE DETAIL E SHT 2

FOR ITEM 8C ATTACHMENT
SEE DETAIL F SHT 2

FOR ITEM 8S ATTACHMENT
SEE DETAIL G SHT 2

TMA9182QMLC

JACK IN STORAGE POSITION SEE NOTE 3

303±25 mm [1"±1"]

SEE NOTE 4 & DETAIL B, SHT. 2

SEE NOTE 5

SEE NOTE 6

SEE NOTE 7

SEE NOTE 8

SEE NOTE 9

SEE NOTE 10

SEE NOTE 11

SEE DETAIL C SHEET 2

SEE NOTE 4

NOTES:

- IT IS RECOMMENDED THAT THE SAFE-STOP TMA BE MOUNTED TO TRUCKS RATED BETWEEN 7300 kg [16,090 LBS] AND 12 000 kg [26,460 LBS] G.V.W. (ACTUAL TRAVELING WEIGHT SHOULD BE BETWEEN 7300 kg [16,090 LBS] AND 12 000 kg [26,460 LBS]).
- LEFT LOGIC (WIRING) IS REQUIRED FOR THE SAFE-STOP TMA. THE LOCAL FEMALE CONNECTOR IN A CONVENIENT LOCATION ON THE SAME SIDE OF TRUCK AS ALL OTHER CONNECTIONS SO THAT LIFTING OR LOWERING THE TMA WILL NOT DAMAGE THE ELECTRICAL CABLE.
- JACKS MUST BE RELOCATED TO STORAGE POSITIONS WHENEVER TMA IS ATTACHED TO VEHICLE.
- SEE THE SAFE-STOP TMA MANUAL FOR DESIGN LIMITATIONS & INSTALLATION INSTRUCTIONS BEFORE ASSEMBLING AND INSTALLING A SYSTEM. INFORMATION AND COPIES OF ABOVE MANUAL ARE AVAILABLE BY CALLING CUSTOMER SERVICE DEPARTMENT AT (312) 467-6730.
- SAFETY LIGHTS MUST BE CONNECTED TO THE UNBLENDED TAIL AND CLEARANCE LIGHTS' CONNECTOR JUMPER BETWEEN PINS 2 AND 6 ON THE BACK SIDE OF THE TMA PLUG CONNECTOR.

SUPPORT FRAME ASSY, 9182
HYDRAULIC ASSY, 9182
ATTACHMENT ASSY,
SUPPORT FRAME PREASSY, 9182
MISC HARDWARE

REVISED: 11/29/04
DESIGNED: D. Hoyes Jr.
DATE: 11/29/04
CHECKED: R. Broughton
DATE: 10/25/04
DRAWN: R. Espinoza
DATE: 1/7/05
APPROVED: R. Broughton
DATE: 1/7/05
CAD FILE: 9182QM.dwg
NET ASSEMBLY

REVISEMENTS

Date	Rev.	By	Chkd	App.
8/17/05	B	RCG	STT	RCB
4/25/05	A	DPH	JME	AJC

SAFE-STOP™ TMA9182 QUICK MOUNT

SCALE: 1=16 DIM: 9182QM SHEET: 1 of 2 REV: B

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

PARTS LIST		ITEM	STOCK NO.	DESCRIPTION	REQ'D
* PARTS LIST CONTINUED FROM SHEET 1					
TMA9182QMLC					
8K	2708314-0000	WASHER BAR, 1/2X1X6,PT	2.00		
8L	2699491-0100	BOLT, HX, 3/8X1 1/2, C5, P	12.00		
8M	2708021-0100	WASHER, FLAT, 3/8X1, P	12.00		
9	3526804-0000	CONTROL BOX ASSY, CAB, 9182	1.00		
10	2750092-0000	INST ADDENDUM, TMA9182 Q-MOUNT	1.00		
11	3526088-0000	IMPACT FRAME PLATE ASSY, 9180	1.00		

VIEW A-A
(BACK SIDE OF SOCKET)
SEE NOTE 5, SHEET 1
N.T.S.

1 WHI
2 BLK
3 YEL
4 Red
5 GRN
6 BRN
7 Blu

GROUND REVERSE
TAIL LAMPS
LEFT TURN
RIGHT TURN
STOP LAMPS

DETAIL E
SCALE 1:3

DETAIL F
SCALE 1:3

DETAIL B
SCALE 1:10

DETAIL C
SCALE 1:10

DETAIL D
SCALE 1:40

DATE	BY	CHKD	APP
11/29/04	D. Hoyes Jr.		
10/25/04	R. Brougher		
1/7/05	J. Espinoza		
1/7/05	R. Brougher		

DATE	REV	BY	CHKD	APP
4/25/06	A	DPH	JME	AJC
8/17/06	B	RGC	TWB	RCB

REVISIONS

REV. # 10 WAS 2750983-0000

REV. # 9 WAS 2750983-0000

REV. # 8 WAS 2750983-0000

REV. # 7 WAS 2750983-0000

REV. # 6 WAS 2750983-0000

REV. # 5 WAS 2750983-0000

REV. # 4 WAS 2750983-0000

REV. # 3 WAS 2750983-0000

REV. # 2 WAS 2750983-0000

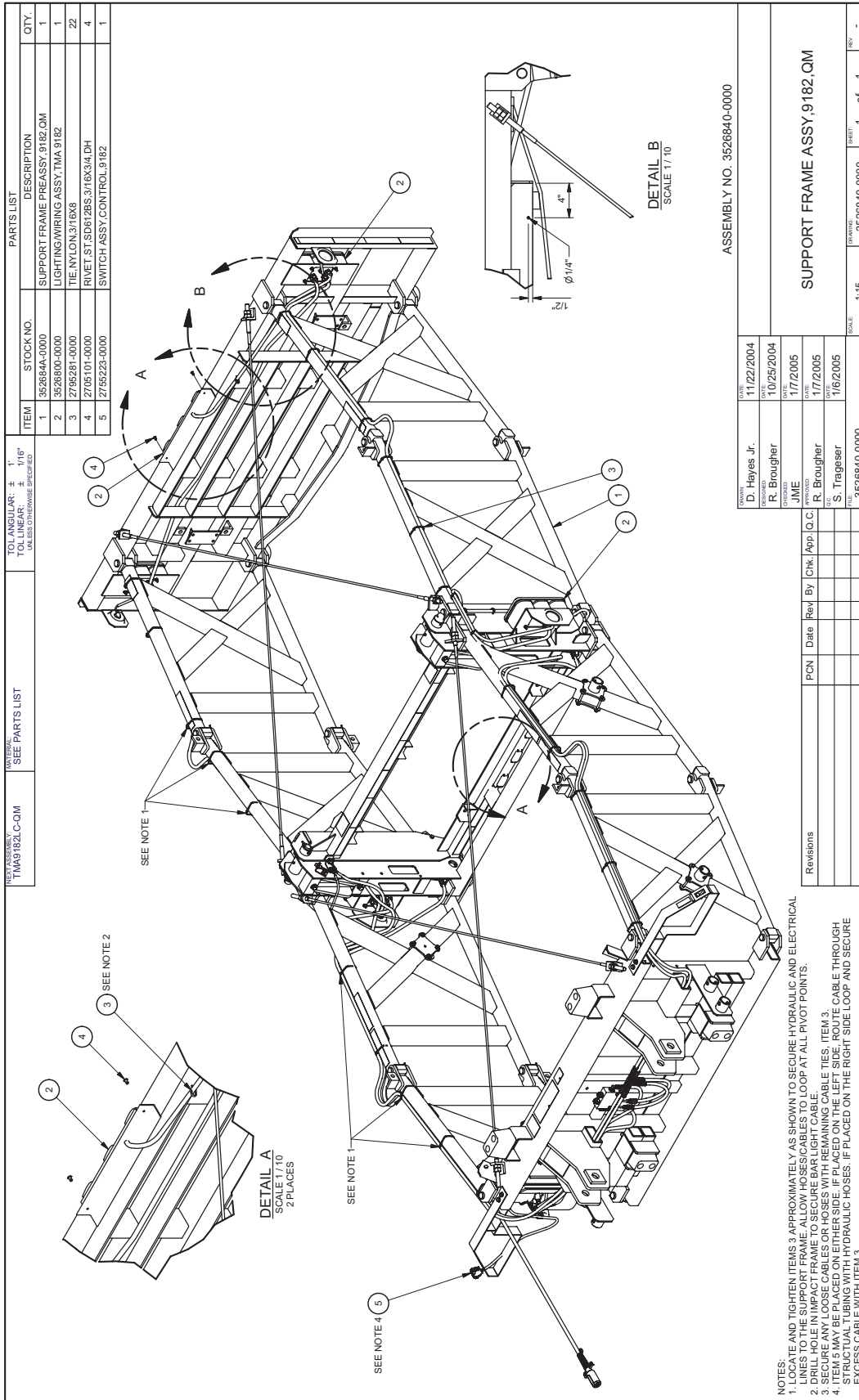
REV. # 1 WAS 2750983-0000

REFERENCES

SCALE	TITLE	DATE	REV
AS NOTED	9182QCM	2 of 2	B

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount



NOTES:
 1. LOCATE AND TIGHTEN ITEMS 3 APPROXIMATELY AS SHOWN TO SECURE HYDRAULIC AND ELECTRICAL LINES TO THE SUPPORT FRAME. ALLOW HOSE/CABLES TO LOOP AT ALL PIVOT POINTS.
 2. DRILL HOLE IN IMPACT FRAME TO SECURE BAR LIGHT CABLE.
 3. SECURE ANY LOOSE CABLES OR HOSES WITH REMAINING CABLE TIES. ITEM 3.
 4. SECURE ALL HOSES WITH REMAINING CABLE TIES. ITEM 3.
 5. STRUT TUBING WITH HYDRAULIC HOSES. IF PLACED ON THE RIGHT SIDE LOOP AND SECURE EXCESS CABLE WITH ITEM 3.

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

PART ASSEMBLY NO.	DATE	BY	CHK.	DATE	BY	CHK.	DATE	BY	CHK.
3526806-0000	8/19/2004	D. Hayes Jr.							
	6/1/2004	R. Brougher							
	10/7/2004	J. Espinoza							
	9/24/2004	R. Brougher							
	9/27/2004	S. Trageser							

ITEM	STOCK NO.	DESCRIPTION	QTY.
1	3526807-0000	HYDRAULIC PUMP ASSY,9182	1
2	2703001-0000	VALVE, HYDRAULIC COUNTER BALANCE	1
3	2715315-0100	COUPLING #4 MORB X #4 MJC-P	2
4	2703004-0100	ELBOW #4 M-JIC#6 M-ORB-P	4
5	2715316-0100	TEE #4 M-JIC-P	2
6	2689141-0100	BOLT,HX 1/4X1 3/4,GZP	2
7	2706003-0100	WASHER,FLAT 1/4X5/8 P	2
8	2704153-0100	NUT,HX,NYLON LOCK,1/4,P	2
9	2703003-0140	HOSE ASSY, HYDR.,MF ENDS,140	4
10	2715329-0000	HOSE ASSY, HYDR.,30,PUMP SUP	2
11	2715319-0000	HOSE ASSY, HYDR.,LLC, 16, CYL TOP	2

TO: ANGULAR: ± 1°
TO: LINEAR: ± .1716"
UNLESS OTHERWISE SPECIFIED

ASSEMBLY NO. 3526806-0000

HYDRAULIC ASSY,9182

TOTAL: 1:8 DRAWING: 3526806-0000 SHEET: 1 of 2 REV: -

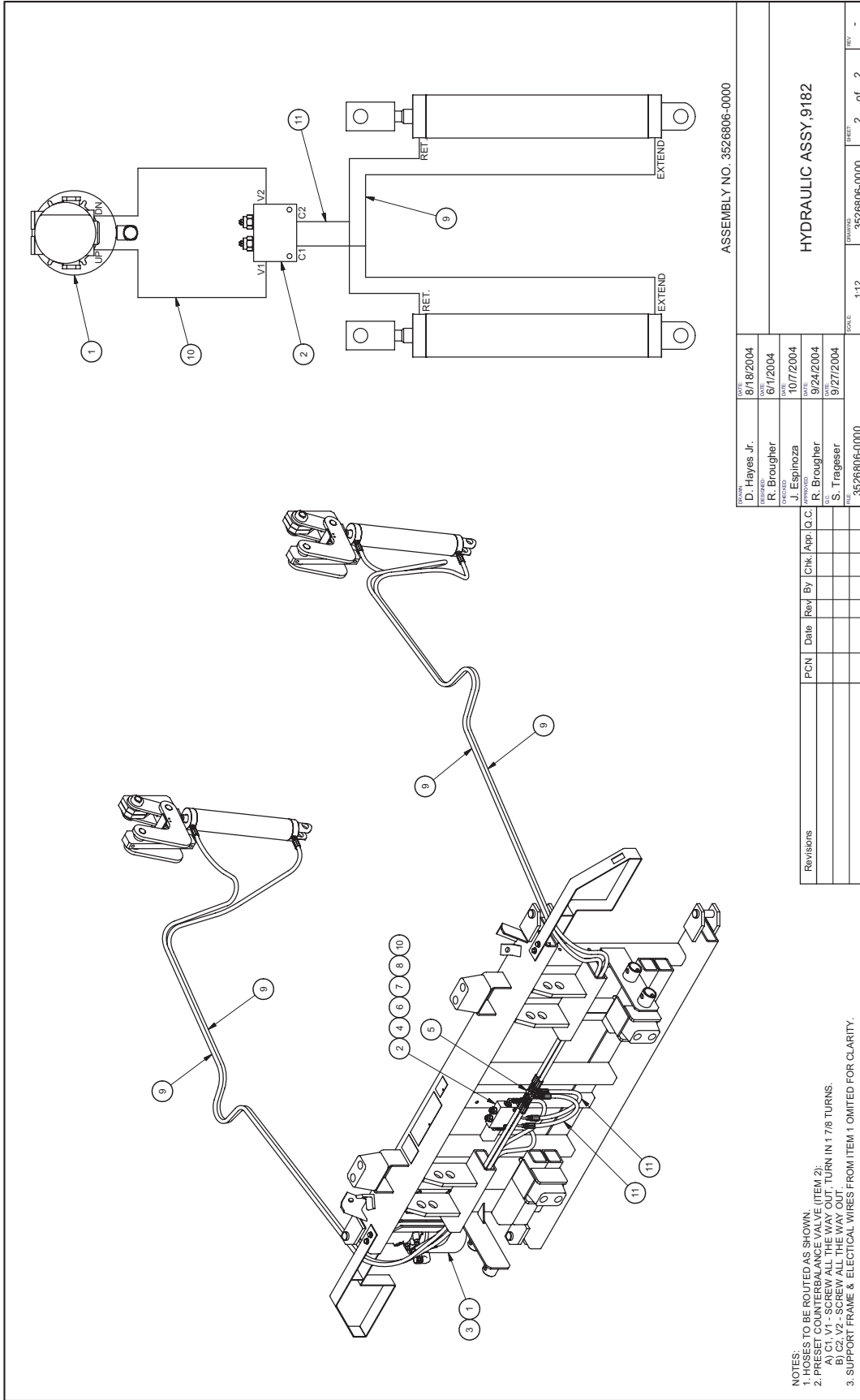
NOTES:

1. SEE SHEET 2 FOR INSTALLATION DETAILS.

2. ELECTRICAL WIRES FROM ITEM 1 OMITTED FOR CLARITY.

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount



Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	2751802-0000	INTERFACE BRACKET,8280/9181,1QM	2
2	2751801-0000	SHIM SPACER,TMA9181QM	2
3	2751802-00000	PIN,HITCH,W/LINCH PIN & WASH	2
4	2702222-0100	PIN, HITCH, 1/4 X 7, P, w/HAIRPIN COTTER	2
5	2751810-0000	TUB ST 2 ODX,3/4 WALLX2 3/4	2
6	2508031-0000	SHIM,1/4X5X10,PT	8
7	2508251-0000	SHIM,1/2 GA,XX,0,PT	8
8	2699541-0100	BOLT, HK, 1X3 1/2, G8, P	4
9	2708191-0000	WASHER, FLAT, 1 X 2 1/2, G	8
10	2708241-0000	WASHER, LOCK, 1, G	4
11	2704161-0400	NUT, HX, 1, G8 P	4
12	2708862-0100	WASHER,FLAT,1,1/4 ID,3,1/2 OD	2
13	2702005-0100	PIN,LINCH,1/4X1 9/16,P	2

SEE NOTE 1

SEE NOTE 2 FOR LOCATION

NOTES:

- REPLACE HAIRPIN COTTER ON ITEM 4 WITH LINCH PIN (ITEM 13).
- USE AS REQUIRED TO ACHIEVE PROPER SYSTEM TO GROUND DISTANCE.

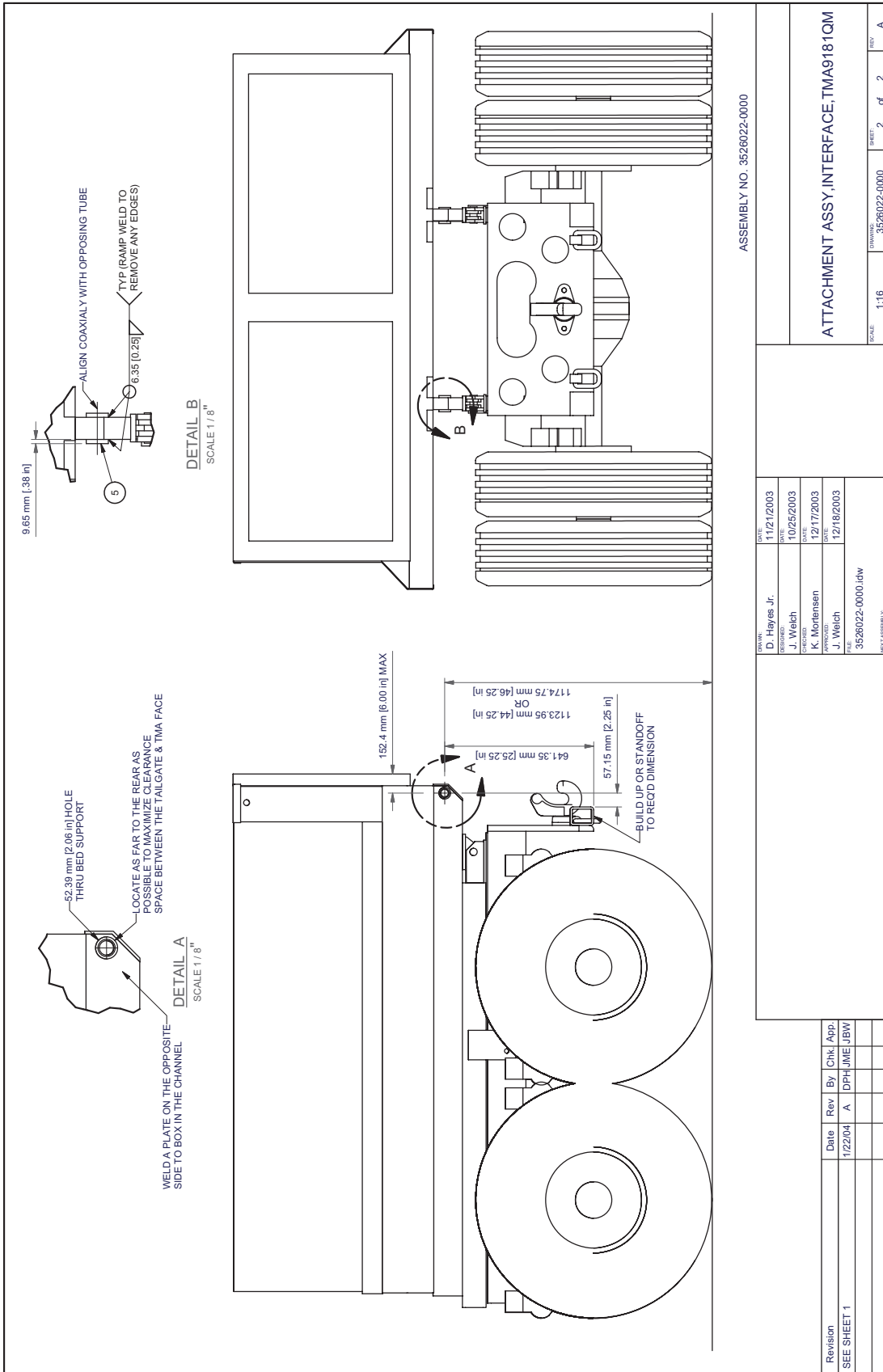
DATE: 11/21/2003
 DRAWN: D. Hayes Jr.
 CHECKED: J. Welch
 DATE: 10/25/2003
 DESIGNED: K. Mortensen
 DATE: 12/17/2003
 APPROVED: J. Welch
 DATE: 12/16/2003
 FILE: 3526022-0000.iaw
 PLOT: MECH ASSEMBLY

Revision	Date	Rev	By	Chk	App
ITEM 11 WAS 2704161-0000	1/22/04	A	DPH	JME	JBW

ATTACHMENT ASSY,INTERFACE,TMA9181QM	
SCALE: 1:10	FORMING: 3526022-0000
SHEET: 1	OF: 2
REV: A	

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount



Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount

PARTS LIST		PARTS LIST	
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	2724300-0000	BACKUP, 9182, QM, PT	1
2	2724108-0000	WELDMENT, FRONT INT FRAME, 9182, PT	1
3	2724114-0000	WELDMENT, REAR INT FRAME, 9181, PT	1
4	2751814-0000	IMPACT FRAME, 9181, PT	1
5	2724100-0000	ARM, FRONT, 9182, PT	2
6	2724102-0000	ARM, REAR, 9182, PT	2
7	2724101-0000	ARM, FRONT, W/MOUNT, 9182, PT	2
8	2724103-0000	ARM, REAR, W/MOUNT, 9182, PT	2
9	3526806-0000	HYDRAULIC CYLINDER ASSY, 9182	1
10	3526805-0000	HYDRAULIC CYLINDER ASSY, 9182	1
11	2742340-0000	CABLE, 5/16X100, 5/8 STUDS	4
12	2724106-0000	GUARD/SWITCH MOUNT, 9182, PT	2
13	2724128-0000	JACK BRACKET ASSY, 9182	4
14	2702541-0100	PIN, CLEVIS, 1/3, 1/2 P	24
15	2702151-0100	PIN, COTTER, 3/16X1, 1/2 P	24
16	2715402-0100	PIN, FITCH, 1/4 OD X7, W/OUT HANDLE, P	2
17	2751761-0000	SPACER, 1/2X3/4, 1/2, W/HOLES, PT	2
18	2021487-0000	BUMPER, RUBBER, 3/16X5X3.5H, 2 HOLES	4
19	2751760-0000	SPACER, 1/4X1/2, 1/4, W/HOLES, PT	4
20	2708733-0000	WASHER, FLAT, 1, 1/4 ID X, 2, 3/4 OD, G	2
21	2701112-0100	BOLT, HX, 1/4X2, 3/4, G5P	2
22	2699100-0100	BOLT, HX, 3/8X1, G5P	10
23	2701311-0100	BOLT, HX, 3/8X3, G2P	4
24	2701374-0100	BOLT, HX, 1/2X6, G5P	4
25	2699010-0100	BOLT, HX, 1/2X2, 3/4, G2P	4
26	2699008-0100	BOLT, HX, 1/2X1, 1/4, G5P	4
27	2708003-0100	WASHER, FLAT, 1/4X5/8 P	4
28	2708041-0100	WASHER, LOCK, 3/8 P	12
29	2708022-0100	WASHER, FLAT, 3/8 ID X13/16 OD, P, HRD	6
30	2708181-0100	WASHER, LOCK, 1/2 P	12
31	2708011-0100	WASHER, FLAT, 1/2X1, 3/8 P	4
32	2704153-0100	NUT, HX, NYLON, LOCK, 1/4 P	2
33	2704008-0100	NUT, HX, NYLON, LOCK, 3/8 P	2
34	2704031-0100	NUT, HX, 3/8 P	4
35	2704011-0100	NUT, HX, 1/2 P	8
36	2715011-0000	GREASE FITTING, 1/4-28, STR	2
37	2750089-0000	DECAL, RELEASE CABLE TORQUE, 9180	4
38	2725381-0000	DECAL, CAUTION STAY CLEAR	2
39	2735711-0000	DECAL, CAUTION ALL PRODUCTS	1
40	2735712-3200	DECAL, PRODUCT SAFE-STOP, 180 TMA	1
41	2750471-0000	DECAL, USE ENERGY REPLACEMENT PARTS	3
42	2750561-0000	DECAL, WARNING, HANDS FEET CLEAR	2
43	2735512-0000	DECAL, SAFE-STOP, 9182, APPROVED OPT TESTS	2
44	2712272-0000	TAPE, REFLECTIVE, 1, 1/2 RED/WHITE	19.3

(CONTINUED ON SHEET 2)

TOL. ANGULAR: ± 1°
TOL. LINEAR: ± .016"
VALUES CONTINGENT UPON ORDER

SEE NOTE 3

ASSEMBLY NO. 352684A-0000

SUPPORT FRAME PREASSY, 9182, QM

DATE: 1/25/2004
BY: D. Hayes Jr.
CHECKED: R. Brougher

DATE: 1/7/2005
BY: JME
CHECKED: R. Brougher

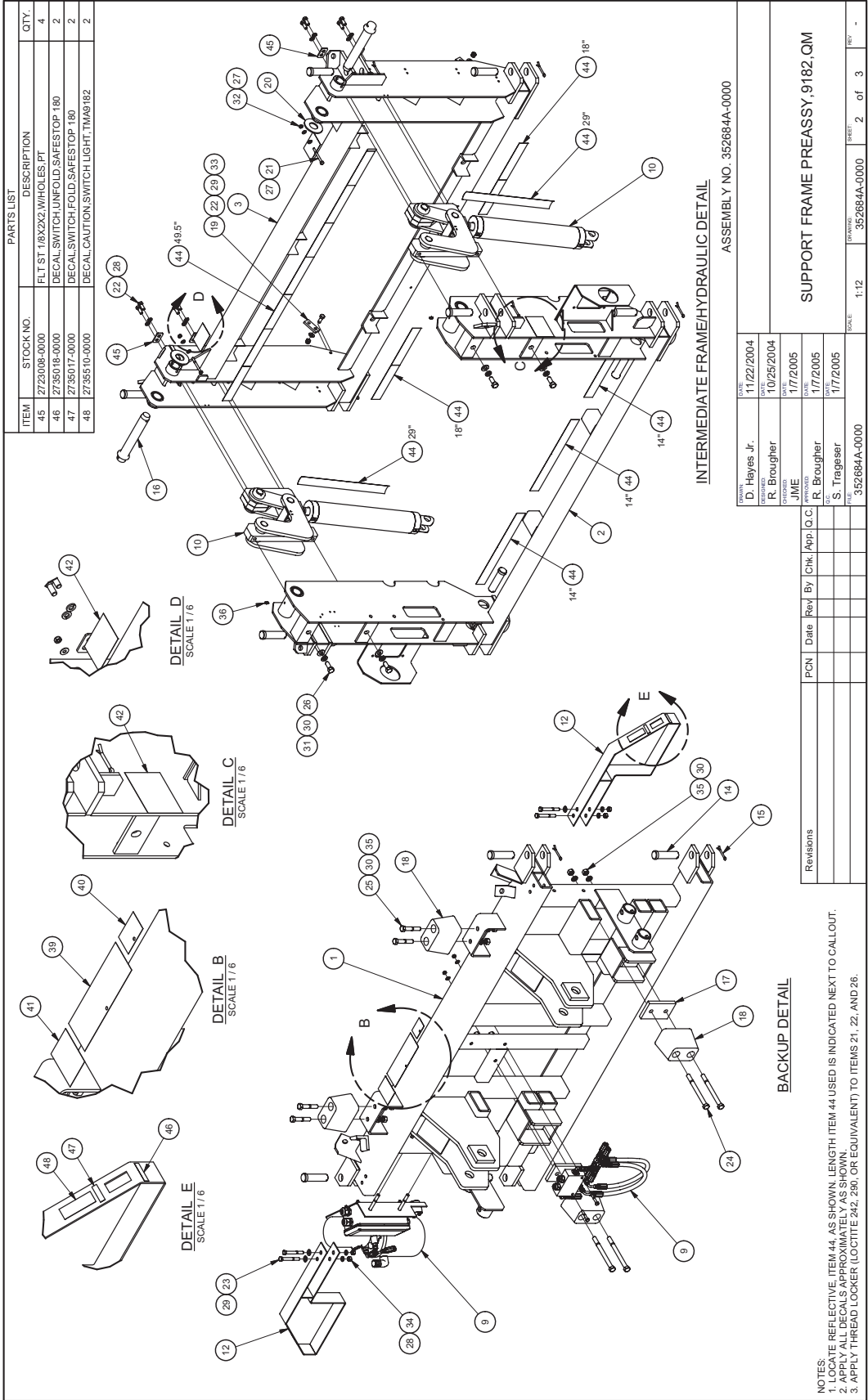
DATE: 1/7/2005
BY: S. Trageser
CHECKED: S. Trageser

SCALE: 1:25
SHEET: 1 of 3

NOTES:
1. LOCATE ALL DECALS AND REFLECTIVE AS SHOWN. LENGTH OF ITEM 44 IS INDICATED NEXT TO EACH ITEM CALLOUT. SEE SHEETS 2 & 3 FOR ADDITIONAL DECAL AND TAPE PLACEMENT.
2. SEE SHEET 2 FOR ADDITIONAL DECAL DETAILS OF BACKUP AND INTERMEDIATE FRAME DETAILS.
3. AFTER ASSEMBLY FILL AXLE SLEEVES WITH STANDARD BEARING GREASE UNTIL GREASE IS VISIBLE AT ENDS OF SLEEVES.
4. HYDRAULIC HOSES AND ELECTRICAL WIRES FROM ITEM 9 NOT SHOWN FOR CLARITY.

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount



PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
45	2723008-0000	FLT ST 1/8X2X2.1W/40LES PT	4
46	2735018-0000	DECAL SWITCH UNFOLD SAFESTOP 180	2
47	2735017-0000	DECAL SWITCH FOLD SAFESTOP 180	2
48	2735510-0000	DECAL CAUTION SWITCH LIGHT TMA9182	2

INTERMEDIATE FRAME/HYDRAULIC DETAIL			
DATE	BY	CHK.	APP. I.C.C.
11/22/2004	D. Hayes Jr.		
10/25/2004	R. Brougher		
1/7/2005	JME		
1/7/2005	R. Brougher		
1/7/2005	S. Trageser		

ASSEMBLY NO. 352684A-0000

BACKUP DETAIL			
PCN	Date	Rev	By

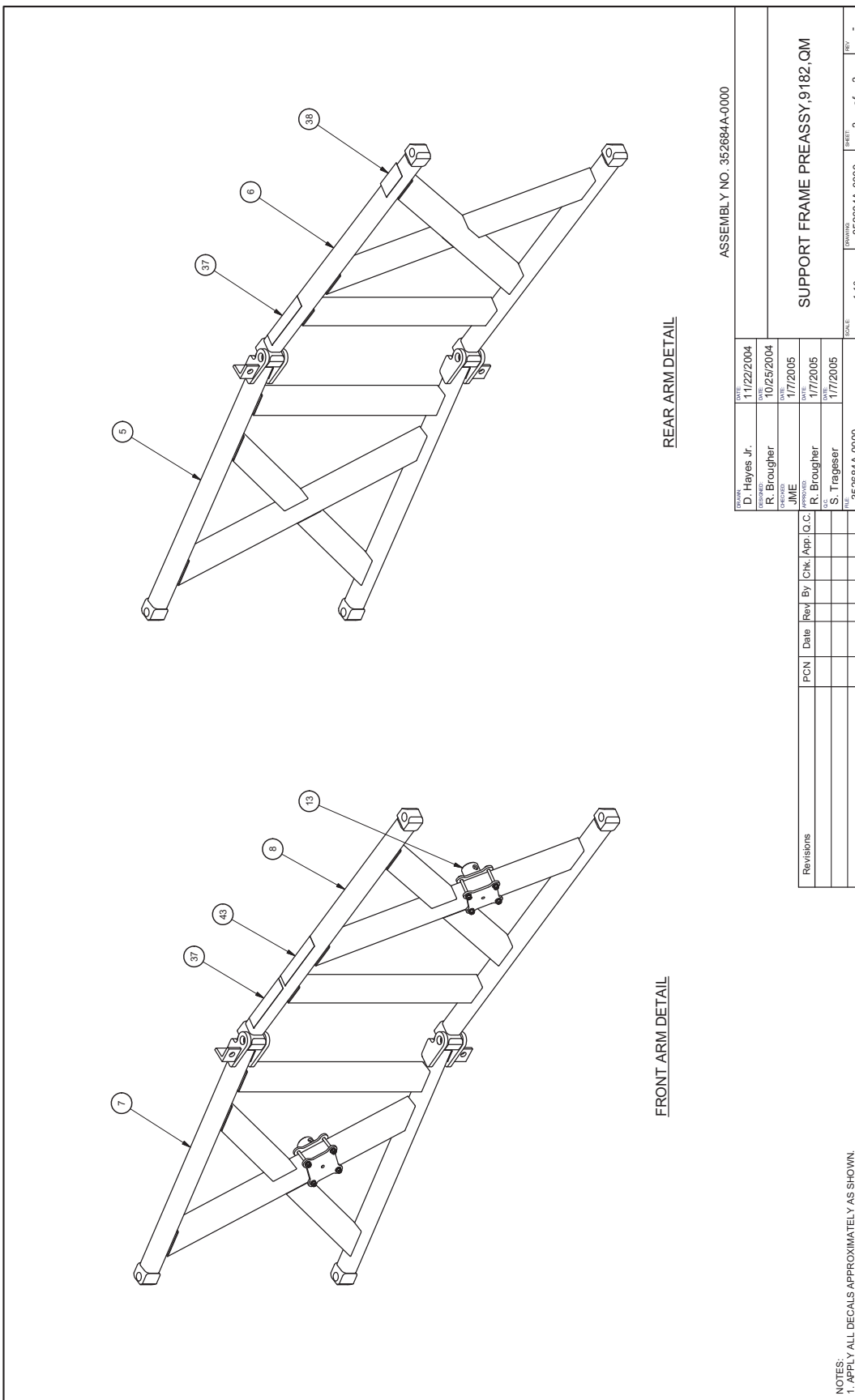
Revisions

SCALE: 1:12 DRAWING: 352684A-0000 SHEET: 2 of 3 REV: -

NOTES:
 1. LOCATE REFLECTIVE, ITEM 44, AS SHOWN. LENGTH ITEM 44 USED IS INDICATED NEXT TO CALLOUT.
 2. APPLY ALL DECALS APPROXIMATELY AS SHOWN.
 3. APPLY THREAD LOCKER (LOCTITE 242, 250, OR EQUIVALENT) TO ITEMS 21, 22, AND 26.

Safe-Stop® 180 TMA

(Model 9182) Installation Manual Addendum for Quick Mount



ASSEMBLY NO. 352684A-0000		REV. 11/22/2004	
DESIGNED BY	D. Hayes Jr.	DATE	11/22/2004
DESIGNED BY	R. Brougher	DATE	10/25/2004
DESIGNED BY	JME	DATE	1/7/2005
DESIGNED BY	R. Brougher	DATE	1/7/2005
DESIGNED BY	S. Trageser	DATE	1/7/2005
PART NO. 352684A-0000		SCALE	1:10
SUPPORT FRAME PREASSY, 9182, QM		DRAWING NO.	352684A-0000
		SHEET	3 of 3

PCN	Date	Rev'd	By	Clk.	App.	Q.C.

Revisions

NOTES:
1. APPLY ALL DECALS APPROXIMATELY AS SHOWN.



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