



servicedoor.com

INSTALLATION INSTRUCTIONS

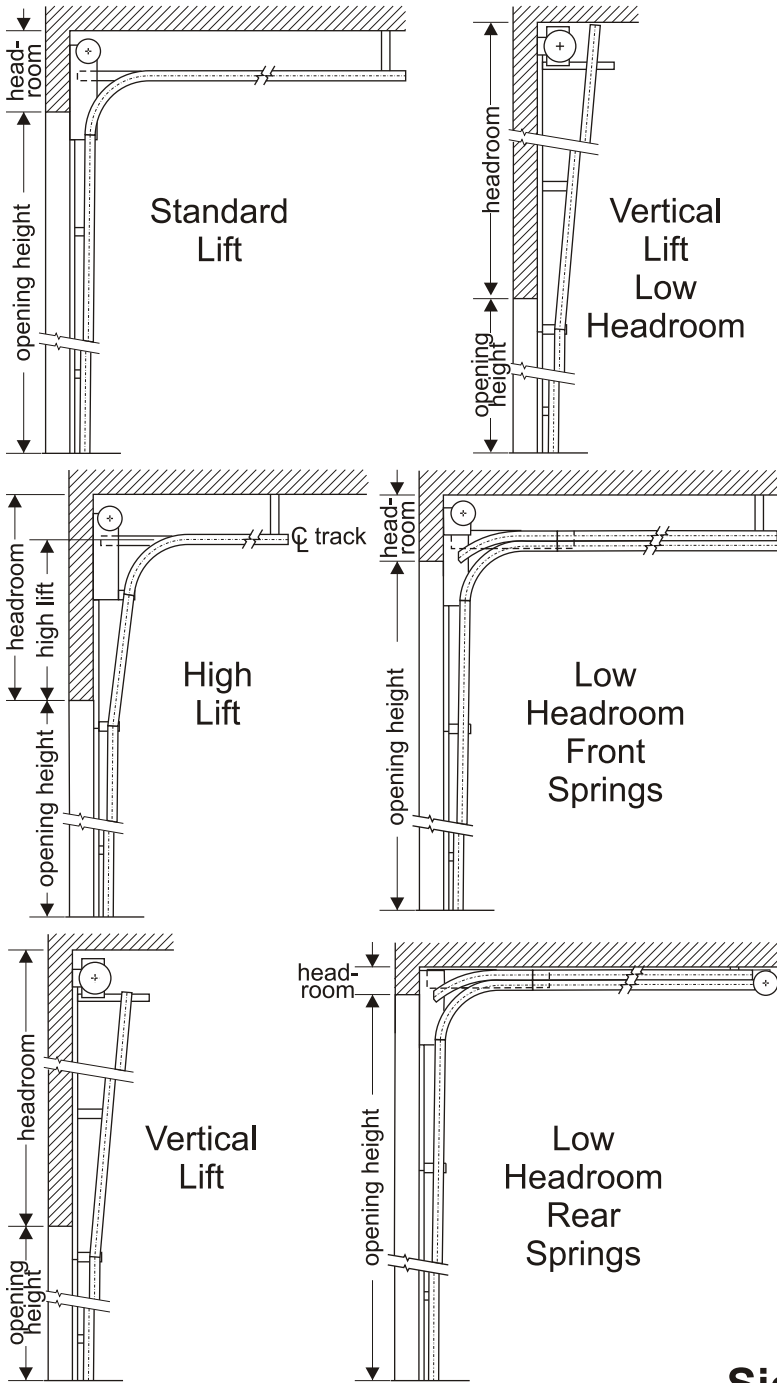
**SECTIONAL & ALUMINUM
DOORS**

WARNING

**SDI RECOMMENDS THAT ONLY
EXPERIENCED SECTIONAL DOOR
INSTALLERS DO THE INSTALLATION
AND SERVICING OF A SECTIONAL
OVERHEAD DOOR.**

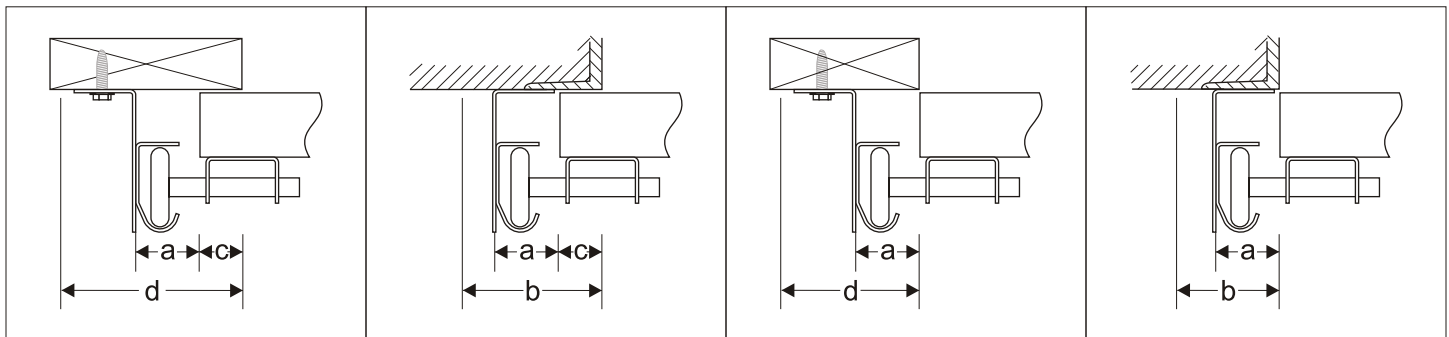
**SERVICE DOOR INDUSTRIES, 1340 MID-WAY BLVD, MISSISSAUGA, ON, L5T2G8
TEL (905)670-1200 FAX (905) 670-8830 COUNTER FAX (905) 670-9931**

Headroom Clearances



Drums	2" 12" R	2" 16" R	3" or Super 3
Standard Lift			
D400-144	13"	16 ¹ / ₂ "	18"
D525-216	14 ¹ / ₂ "	18 ¹ / ₂ "	19"
D800-312	16 ¹ / ₂ "	19 ¹ / ₂ "	21"
High Lift			
D400-54	X	HL + 7 ¹ / ₂ "	HL + 9 ¹ / ₂ "
D525-54		HL + 9"	HL + 10 ¹ / ₂ "
D575-120		HL + 10"	HL + 12"
D6375-164		HL + 16"	HL + 18"
D800-120		HL + 17"	HL + 18 ¹ / ₂ "
Vertical Lift			
850-11	Door Height + 22"		
1100-18			
13.50-336			
Vertical Lift (Low Headroom)			
850-11	Door Height + 10"		
1100-18			
13.50-336			
Drums			
		2"	3" or Super 3
Low Headroom Front			
D400-144	10 ¹ / ₂ "		13"
D525-216	11 ¹ / ₄ "		15 ¹ / ₂ "
D800-312			
Low Headroom Rear			
D400-144	4 ¹ / ₂ "		7 ¹ / ₂ "
D525-216	5"		
D800-312			

Side Room Clearances



Overlapping Door
Wood Jamb

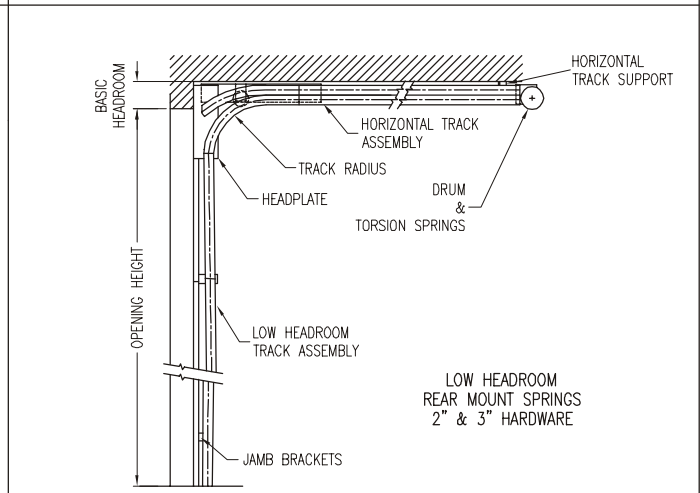
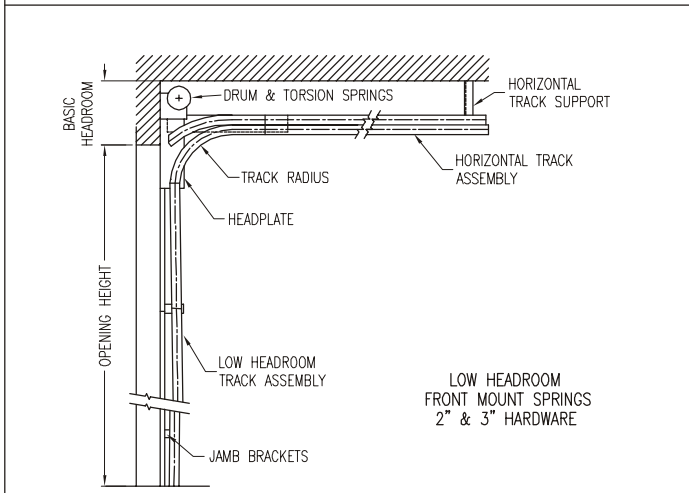
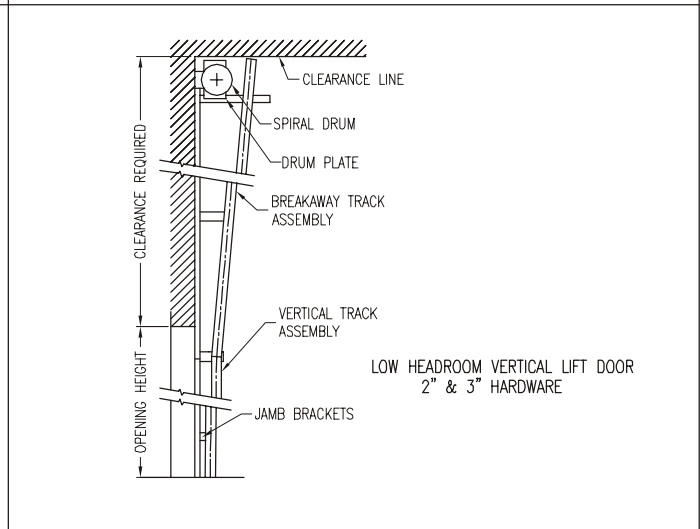
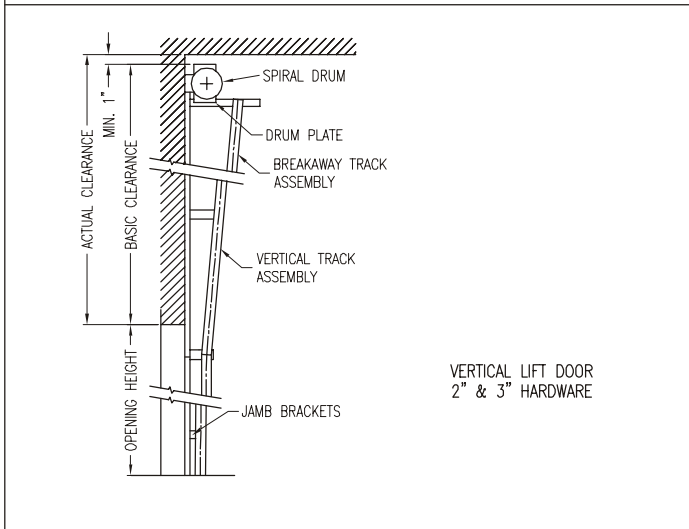
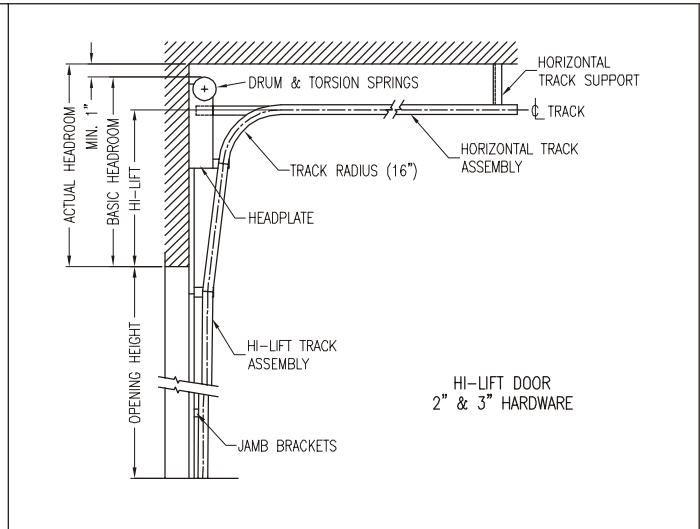
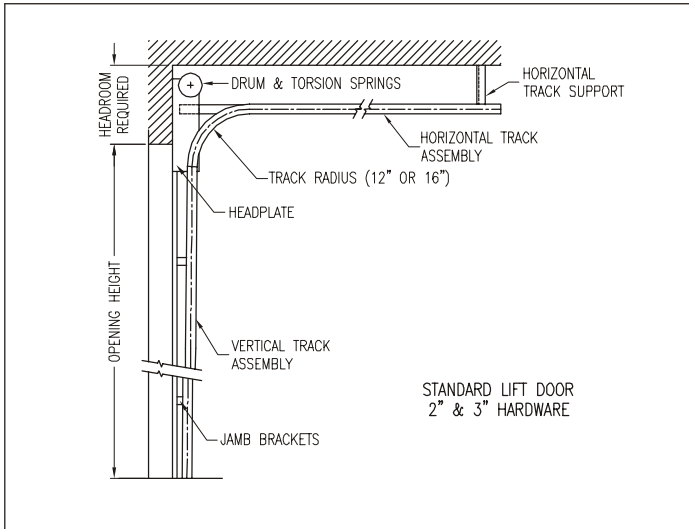
Steel Jamb

Wood Jamb

Steel Jamb

	a	b	c	d
2"	1'-1 ¹ / ₂ "	3'-1 ¹ / ₂ "	1"	5"
3" or Super 3	2"	4"	1"	6"

HARDWARE IDENTIFICATION AND CLEARANCE CHART

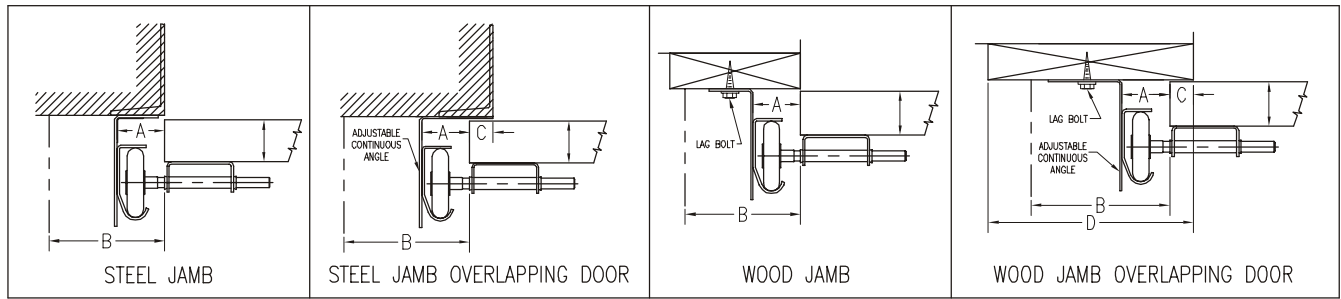


NOTE:

FOR CONDITIONS OTHER THAN THOSE SHOWN
CONSULT HEAD OFFICE.

CENTRE POST BETWEEN DOOR REQUIRES
TWO TIMES THE SIDE DOOR CLEARANCE.
ELECTRIC OPERATORS AFFECT HEAD
AND/OR SIDE ROOM REQUIREMENTS.

DOOR STYL E	HARD WA RE SI ZE	DRUM S USED	TRAC K CURV E RA DIUS	MINIMUM HEADROOM RE QUIRED	JA MB DE TA IL			
					A	B	C	D
STANDARD LIFT	2"	400-12 D400-14 4	12"	1'-1"	1 ½"	3 ½"	1"	5"
	2"	5250- 18 D525-21 6	12"	1'-2 ½"	1 ½"	3 ½"	1"	5"
	2"	800-32 D800-31 2	12"	1'-4 ½"	1 ½"	3 ½"	1"	5"
	2"	400-12 D400-14 4	16"	1'-4 ½"	1 ½"	3 ½"	1"	5"
	2"	5250- 18 D525-21 6	16"	1'-6 ½"	1 ½"	3 ½"	1"	5"
	2"	800-32 D800-31 2	16"	1'-7 ½"	1 ½"	3 ½"	1"	5"
	3"	400-12 D400-14 4	16"	1'-6"	2"	4"	1"	6"
	3"	5250- 18 D525-21 6	16"	1'-7"	2"	4"	1"	6"
	3"	800-32 D800-31 2	16"	1'-9"	2"	4"	1"	6"
HI-LIFT DISTANCE FROM THE DOOR TOP TO THE CENTER LINE OF HORIZONTAL TRACK	2"	400-54 D400-54	16"	H.L.+7 ½"	1 ½"	3 ½"	1"	5"
	2"	5250- 54 D525-54	16"	H.L.+9 "	1 ½"	3 ½"	1"	5"
	2"	5750- 120 D575-12 0	16"	H.L.+10"	1 ½"	3 ½"	1"	5"
	3"	400-54 D400-54	16"	H.L.+9 ½"	2"	4"	1"	6"
	3"	5250- 54 D525-54	16"	H.L.+10 ½"	2"	4"	1"	6"
	3"	5750- 120 D575-12 0	16"	H.L.+12"	2"	4"	1"	6"
	3"	6375- 164 D800-12 0	16"	H.L.+1'- 6"	2"	4"	1"	6"
VERTICAL LIFT	2"	850-11 D850-13 2	-	D.H.+1'-10"	1 ½"	3 ½"	1"	5"
	3"	1100- 18 D1350-33 6	-	D.H.+1'-10"	2"	4"	1"	6"
VERTICAL LIFT LOW HEADROOM	2"	850-11 D850-13 2	-	D.H.+10" OR D.H.+4 "	1 ½"	3 ½"	1"	5"
	3"	1100- 18 D1350-33 6	-	D.H.+10" OR D.H.+4 "	2"	4"	1"	6"
LOW HEADROOM FRONT MOUNT SPRINGS	2"	400-12 D400-14 4	12"	11"	1 ½"	3 ½"	1"	5"
	2"	5250- 18 D525-21 6	12"	11 ¾"	1 ½"	3 ½"	1"	5"
	3"	400-12 D400-14 4 5250- 18 D525-21 6	16"	1'-1"	2"	4"	1"	6"
	3"	800-32 D800-31 2	16"	1'-3 ½"	2"	4"	1"	6"
LOW HEADROOM REAR MOUNT SPRINGS	2"	400-12 D400-14 4	12"	5"	1 ½"	3 ½"	1"	5"
	2"	5250- 18 D525-21 6	12"	5 ½"	1 ½"	3 ½"	1"	5"
	3"	400-12 D400-14 4 5250- 18 D525-21 6 800-32 D800-31 2	16"	7 ½"	2"	4"	1"	6"



**ASSEMBLY INSTRUCTIONS
FOR DOOR FACES**

STEP 1.

CHECK OPENING , MEASURE OPENING WIDTH, OPENING HEIGHT, AS WELL AS THE HEADROOM AND

STEP 2.

MEASURE THE LENGTH OF THE DOOR SECTIONS BEFORE UNPACKING. DO THE DOOR SECTIONS MATCH THE OPENING WIDTH? DOOR SECTIONS SHOULD MEASURE SAME AS OPENING WIDTH OR 2 INCHES LONGER THAN OPENING WIDTH.

STEP 3.

CHECK ALL PARTS AGAINST PACKING LIST. DETERMINE IF ANY PARTS ARE MISSING AT THIS POINT BEFORE PROCEEDING.

STEP 4.

CHECK THE OPENING FOR SQUARENESS. THE JAMBS SHOULD BE PLUMB, THE LINTEL HORIZONTALLY LEVELLED, AND THE FLOOR SHOULD BE LEVELLED.

STEP 5.

LAY BOTTOM SECTIONS ACROSS 2 SAW HORSES WITH EXTERIOR SIDE DOWN, PLACE A PROTECTIVE MATERIAL BETWEEN THE DOOR FACE AND THE SAW HORSES TO PREVENT MARKING OR SCRATCHING. ASSEMBLE THE CABLES TO THE BOTTOM ROLLER BRACKETS AS SHOWN IN FIG.1 AND ATTACH BOTTOM ROLLER BRACKETS TO THE BOTTOM SECTIONS AS SHOWN IN FIG.1. (IF THE BOTTOM SECTION HAS CABLE PICKUP PINS PROJECTING OUT OF THE SECTION AT EACH END , ATTACH THE CABLES TO THE BOTTOM SECTION AS SHOWN IN FIG.1 AND PROCEED WITH THE FASTENING OF THE BOTTOM ROLLER BRACKETS.

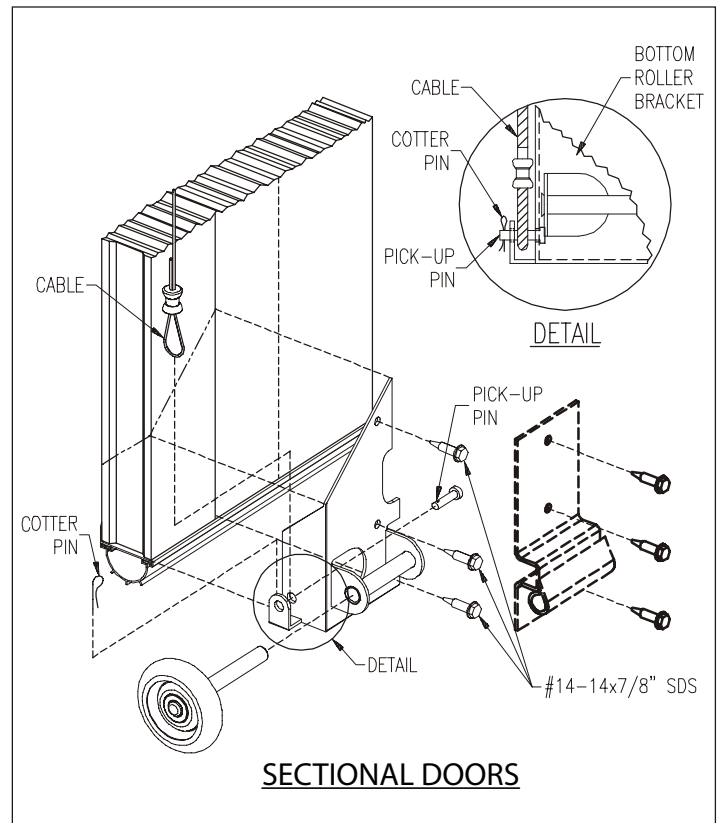


FIG.1

IDENTIFY, LOCATE AND FASTEN THE END ROLLER BRACKETS TO THE TOP OF THE SECTION AT EACH END KEEPING THE ROLLER BRACKET 1/16" FROM THE END OF THE SECTION. SEE FIG.2 & 3A (THE PIVOT OR CENTER JOINT OF THE ROLLER BRACKET MUST BE CENTERED OVER THE TOP EDGE OF THE BOTTOM SECTION WHERE IT WILL MEET THE NEXT SECTION. THE SLOTTED HOLES SHOULD BE AT THE TOP OF THE ROLLER BRACKET AND SHOULD BE PROJECTING PAST THE TOP OF THE SECTION). DETERMINE THE NUMBER OF INTERMEDIATE HINGES THAT SHOULD BE ON EACH SECTION AS PER FIG.3. SPACE THEM EVENLY ACROSS THE TOP OF THE SECTION AND FASTEN KEEPING THEM CENTERED OVER THE JOINT LIKE THE END ROLLER BRACKET, SEE FIG.4.

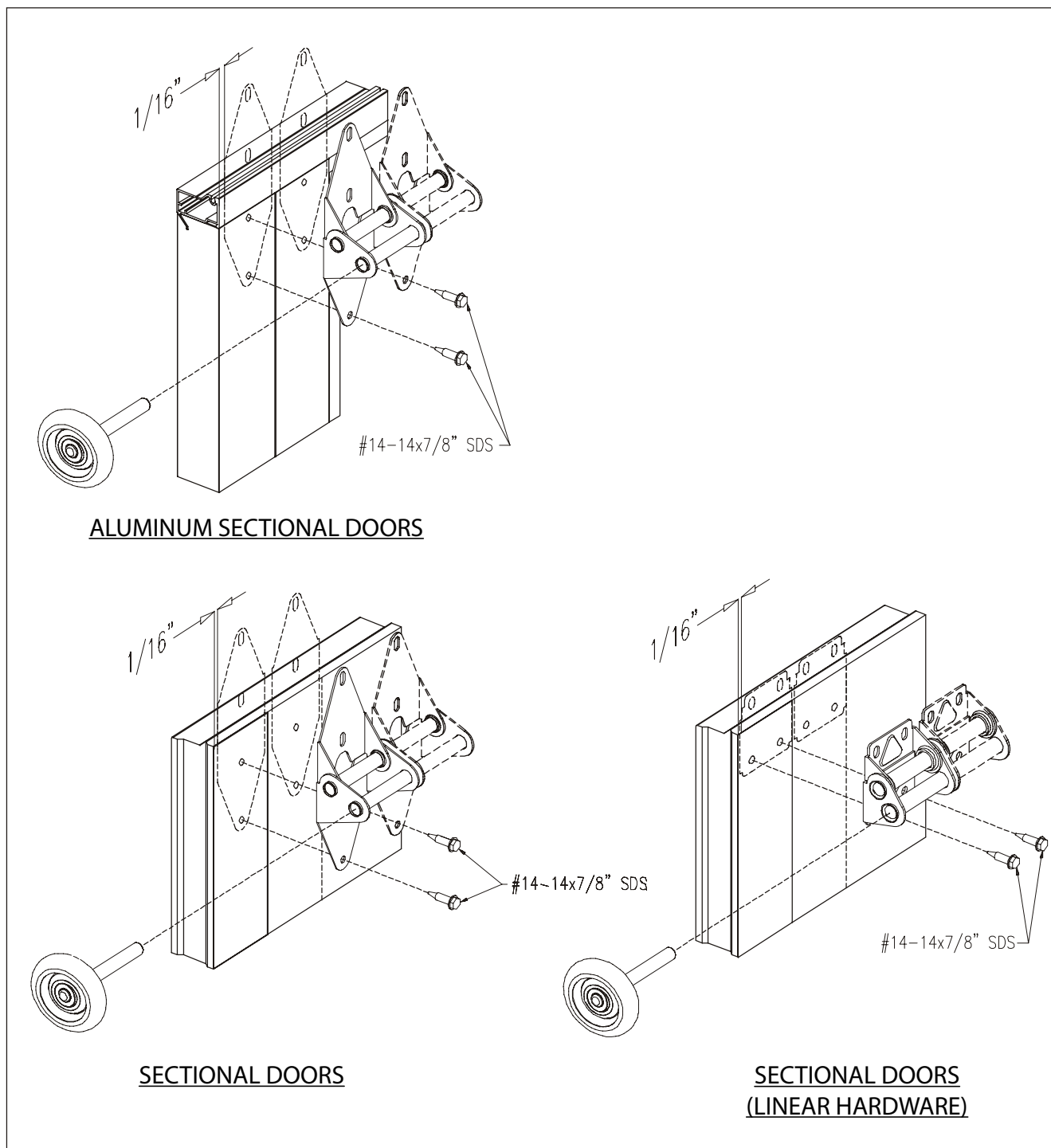


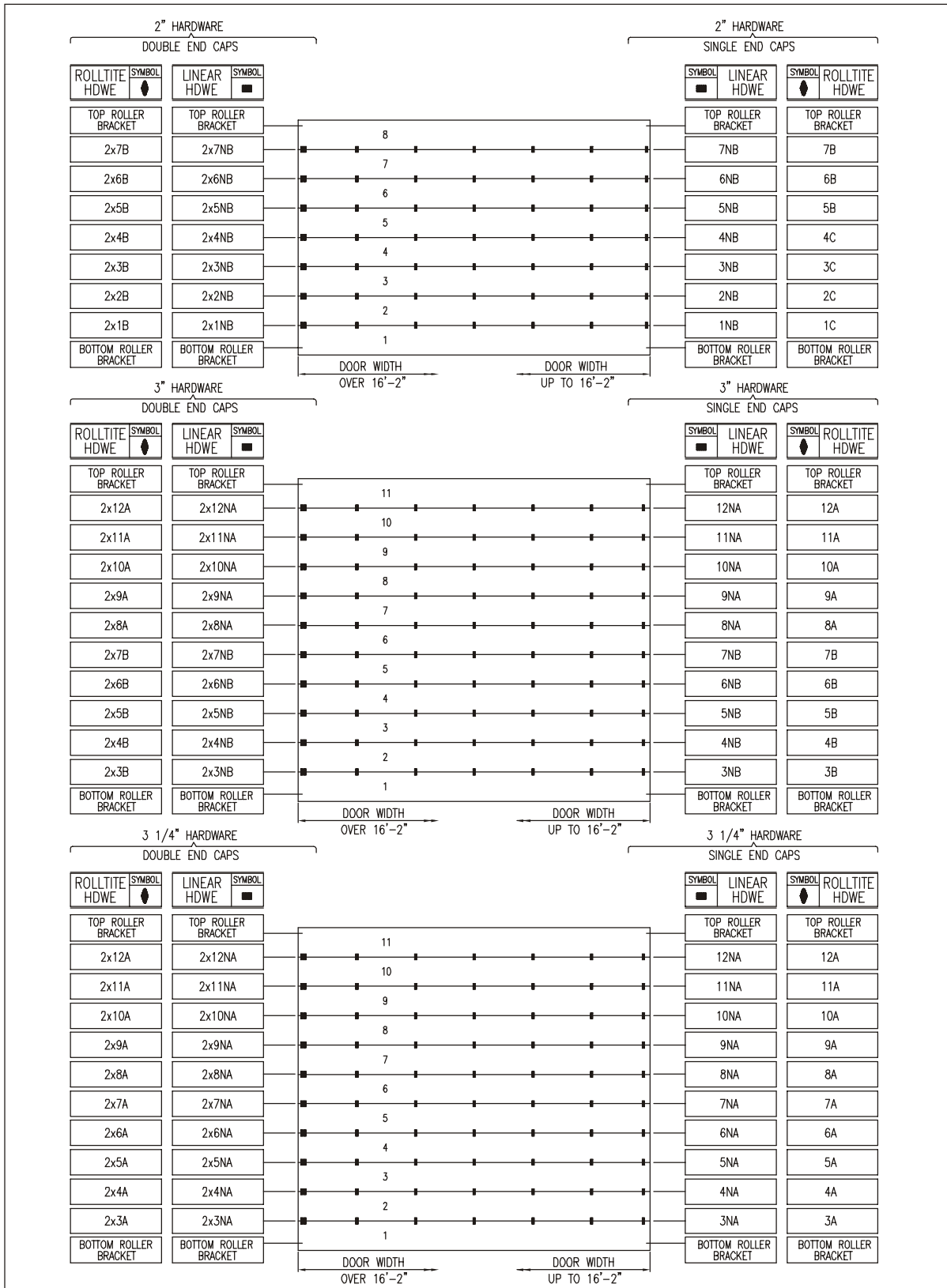
FIG.2

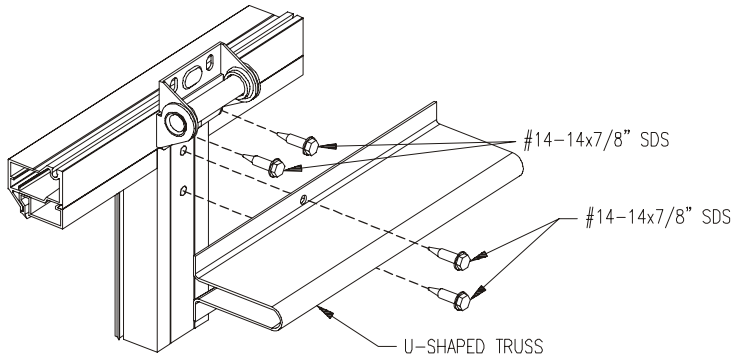
FIG.3

DOOR WIDTH	NUMBER OF CENTRE HINGES
UP TO 9'-2"	1
9'-3" - 12'-2"	2
12'-3" - 16'-2"	3
16'-3" - 19'-2"	4
19'-3" - 24'-2"	5
24'-3" - 28'-2"	6
28'-3" - 32'-2"	7
32'-3" - 36'-2"	8

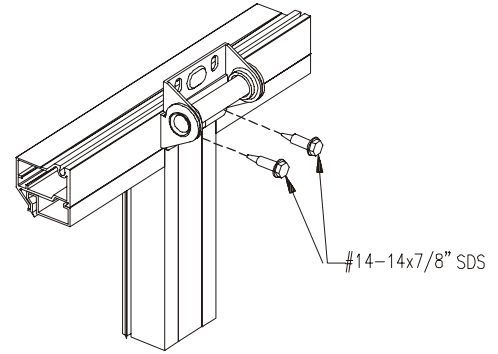
NOTE: FOR STEEL DOORS CENTRE HINGE QUANTITY PER SECTION SAME AS NUMBER OF VERTICAL MUNTINS.

FIG.3A

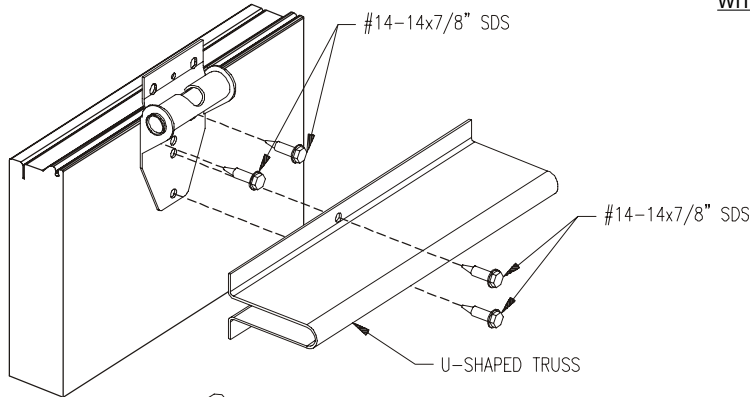




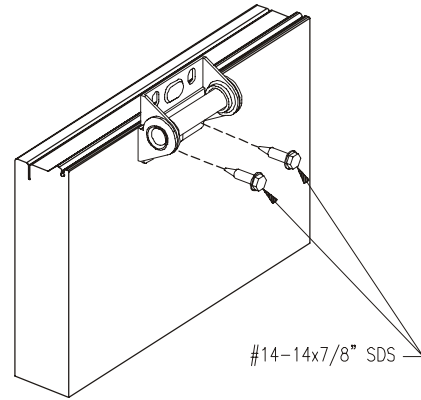
ALUMINUM SECTIONAL DOORS WITH TRUSS



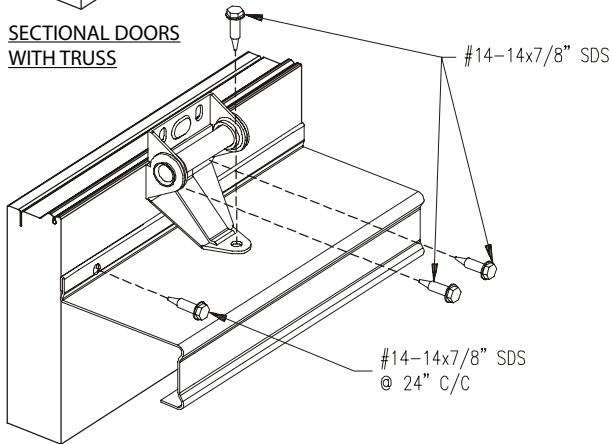
ALUMINUM SECTIONAL DOORS WITHOUT TRUSS



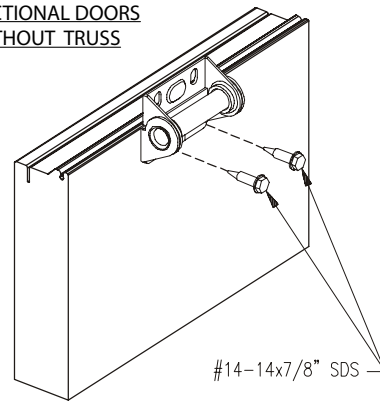
SECTIONAL DOORS WITH TRUSS



SECTIONAL DOORS WITHOUT TRUSS



SECTIONAL DOORS WITH Z-TRUSS (LINEAR HARDWARE)



SECTIONAL DOORS WITHOUT TRUSS (LINEAR HARDWARE)

FIG.4

NOTE:

A). IF THE SECTIONAL DOOR HAS BEEN SUPPLIED WITH U-SHAPED HORIZONTAL REINFORCING TRUSSES OR STRUTS (ONE PER SECTION), LOCATE THE TRUSS OR STRUT AT THE TOP ACROSS THE SECTION BETWEEN 2 FASTENERS AT THE BOTTOM HALF OF THE END ROLLER BRACKETS (FIG.5), AND TRUSS CENTRE HINGES (FIG.4), AND SECURE THEM WITH 2 SCREWS.

IF THE SECTIONAL DOOR OR SPECIFIED SECTIONS OF THE DOOR HAS BEEN SUPPLIED WITH 2 HORIZONTAL REINFORCING TRUSSES OR STRUTS, SECURE THE TOP TRUSS ON THE SECTION AS DESCRIBED ABOVE.

SECOND TRUSS OR STRUT LOCATE AT THE BOTTOM ACROSS THE SECTION BETWEEN 2 FASTENERS AT THE TOP HALF OF THE END ROLLER BRACKETS AND TRUSS CENTER HINGES, WHICH ARE REVERSED COMPARED TO THE TOP TRUSS ON THE LOWER SECTION. SECURE TRUSSES WITH 2 SCREWS PER HINGE. THIS MUST BE DONE AFTER THE DOOR HAS BEEN STACKED IN THE OPENING.

IF THE SECTIONAL DOOR HAS BEEN SUPPLIED WITH LINEAR HARDWARE, LOCATE THE Z-TRUSS AT THE TOP ACROSS THE SECTION AGAINST BOTTOM EDGE OF THE END ROLLER BRACKET, AND SECURE IT WITH 2 FASTENERS (FOR DOORS WITH SINGLE ENDCAPS) OR 3 FASTENERS (FOR DOORS WITH DOUBLE ENDCAPS) (SEE FIG.5). NEXT, ATTACH THE Z-TRUSS TO THE TRUSS CENTRE HINGE AS PER FIG.4 AND FINALLY FASTEN IT TO THE DOOR SECTION EVERY 24" AT EACH HOLE IN THE TRUSS.

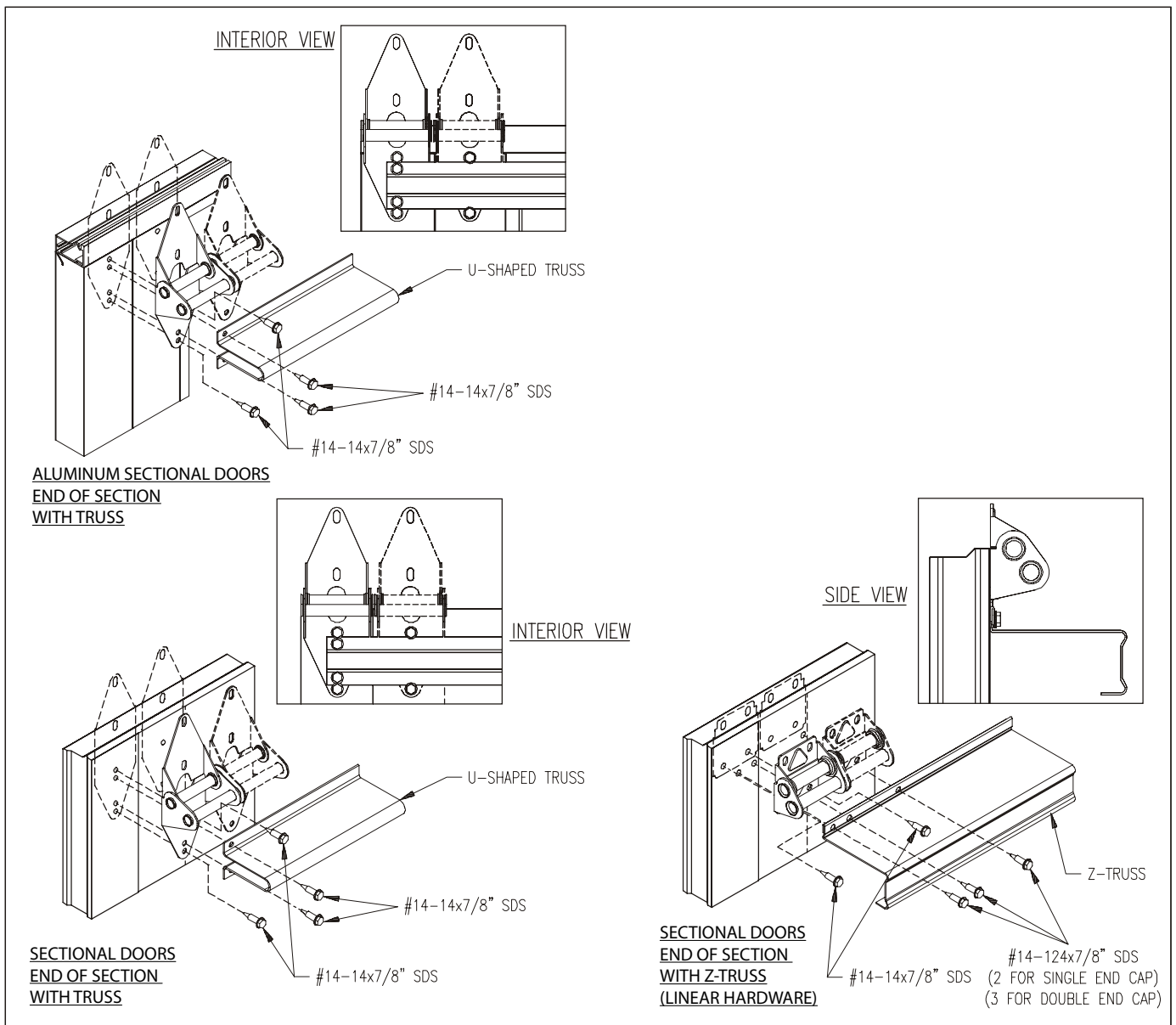


FIG.5

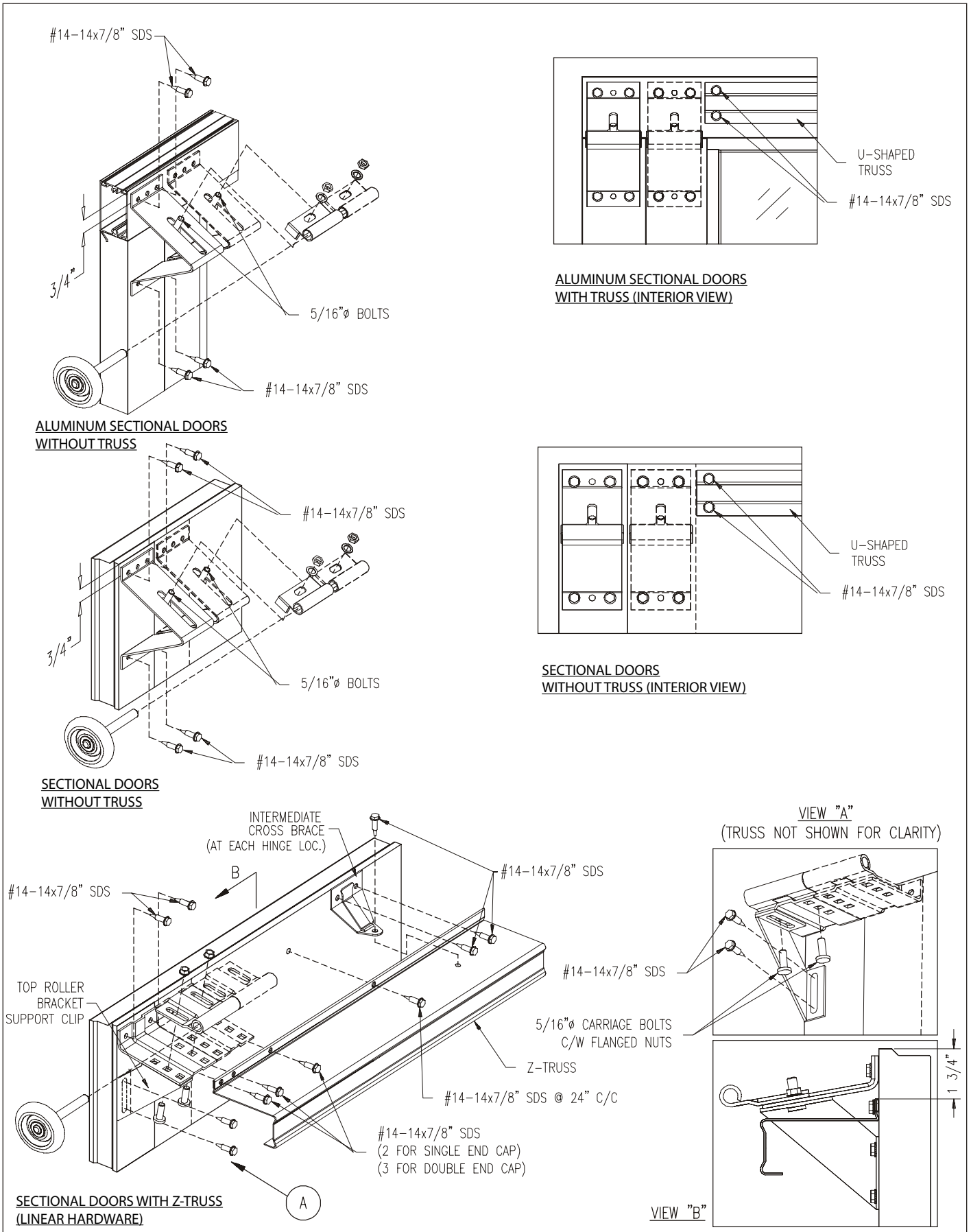


FIG. 6

B). IF THE STEEL DOOR HAS BEEN SUPPLIED WITH U-SHAPED TRUSSES OR STRUTS LOCATE THE TRUSS OR STRUT ACROSS THE SECTION BETWEEN THE 2 FASTENERS AT THE BOTTOM HALF OF THE END ROLLER BRACKETS AND INTERMEDIATE HINGES AND SECURE WITH CLIPS PROVIDED. IF NO CLIPS HAVE BEEN PROVIDED LAY STRUT OR TRUSS ACROSS THE SECTION JUST BELOW THE END ROLLER BRACKETS AND INTERMEDIATE HINGES AT THE TOP OF THE SECTION AND SECURE WITH THE SELF DRILLING FASTENERS SUPPLIED SIMILAR AS SHOWN IN FIG.5.

STEP 6.

LAY EACH INTERMEDIATE SECTION ACROSS THE SAW HORSES ONE AT A TIME AND FASTEN THE END ROLLER BRACKETS FOLLOWING THE SAME PROCEDURE AS IN STEP 5, EXCEPT THAT INSTALL ONLY ONE OF THE END ROLLER BRACKETS.

STEP 7.

LAY TOP SECTION ACROSS THE SAW HORSES WITH THE EXTERIOR SIDE DOWN. IDENTIFY, LOCATE AND ATTACH TOP ROLLER BRACKET(S) AND U-SHAPED TRUSS OR STRUT AS SHOWN IN FIG.6 .

IF THE DOOR HAS BEEN SUPPLIED WITH LINEAR HARDWARE, ATTACH Z-TRUSS TO THE TOP OF SECTION AND TO INTERMEDIATE CROSS-BRACE VERTICALLY ALIGNED WITH TRUSS CENTER HINGES. THEN LOCATE PREASSEMBLED TOP ROLLER BRACKET(S) WITH SUPPORT CLIP AND ATTACH TO THE TOP OF SECTION WITH FASTENERS PROVIDED, SEE FIG.6.

INSTALLATION INSTRUCTIONS FOR TRACK AND STATIONARY HARDWARE COMPONENTS

IMPORTANT: BEFORE PROCEEDING WITH THE INSTALLATION OF THE STATIONARY HARDWARE, DETERMINE WHICH SET OF HARDWARE IS BEING INSTALLED AND EXAMINE THE TYPICAL ARRANGEMENT SHOWN HERE. THERE ARE THREE POSSIBILITIES; STANDARD LIFT SET, HI-LIFT SET, AND VERTICAL LIFT SET. SEE DESCRIPTION ON PARTS LIST.

STEP 8.

IDENTIFY VERTICAL TRACKS AND ATTACH TRACK BRACKETS, CLIP ANGLE, OR ADJUSTABLE CONTINUOUS TRACK ANGLE AS SHOWN IN FIG.7. (LOOSELY ASSEMBLED FOR NOW).

STEP 9A. (FOR HILIFT HARDWARE ONLY)

IDENTIFY THE HEADPLATES AND INSTALL THE BEARINGS INTO IT AS SHOWN IN FIG.8 OR 9.

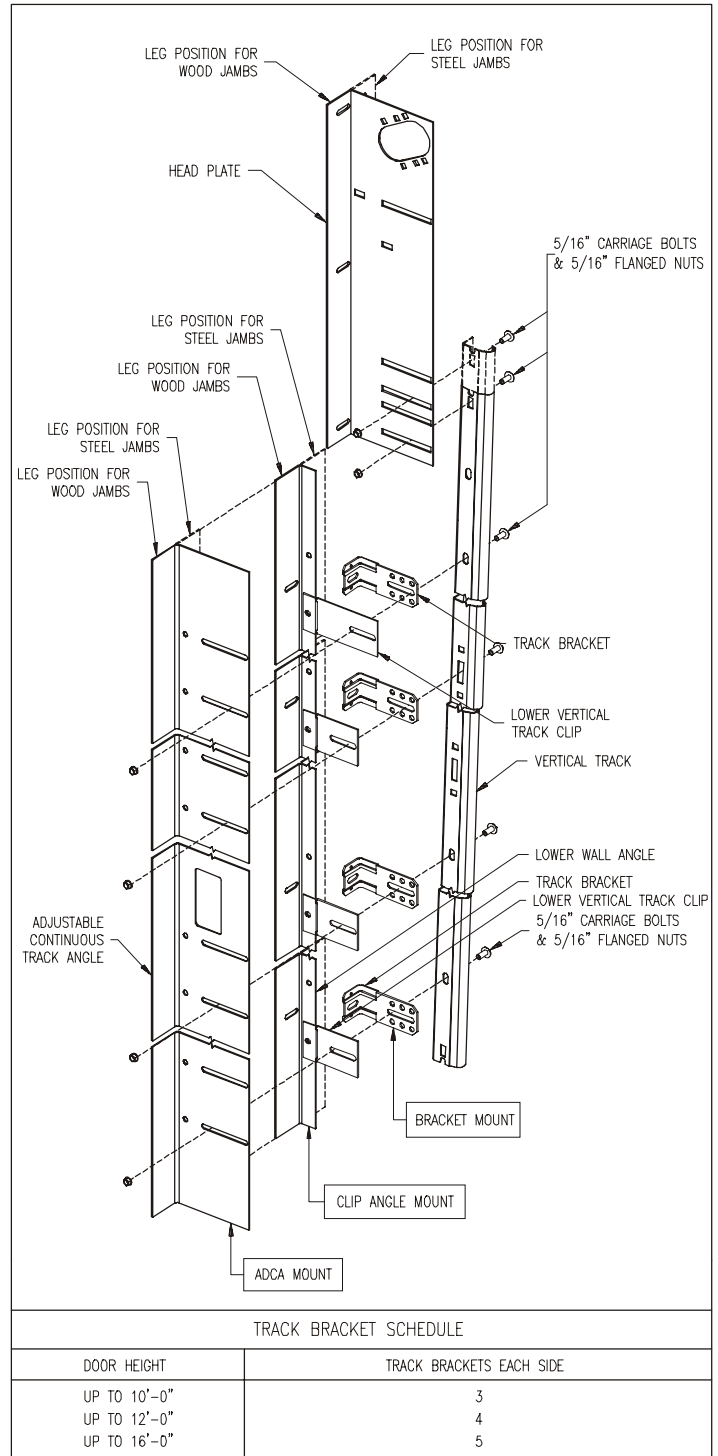


FIG.7

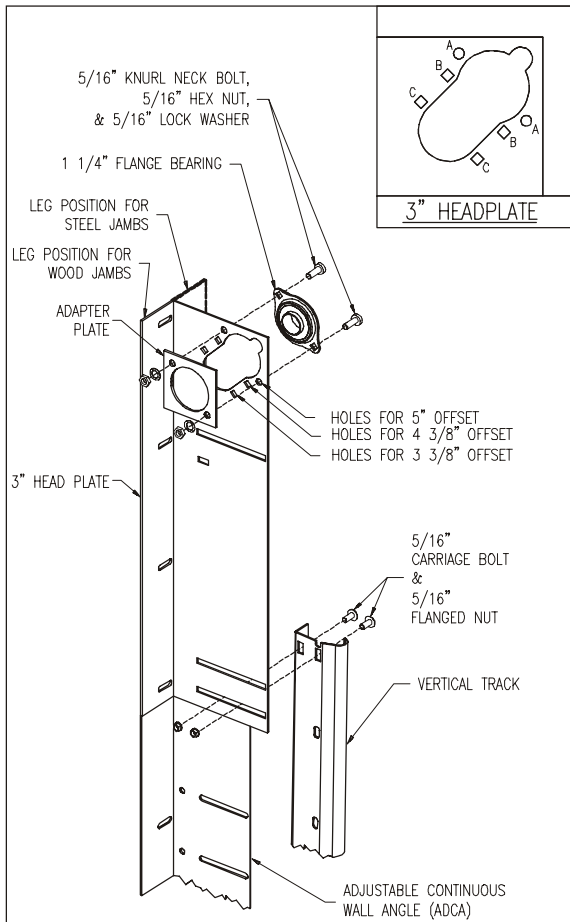


FIG. 8

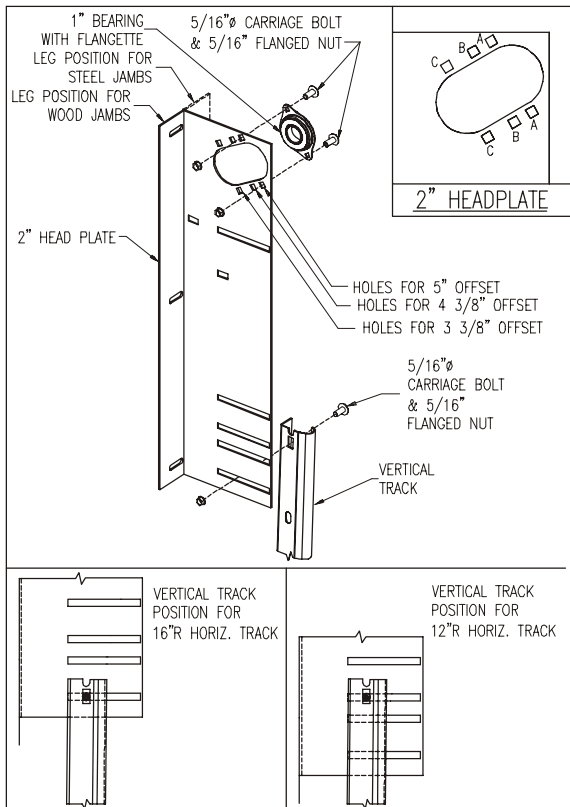


FIG. 9

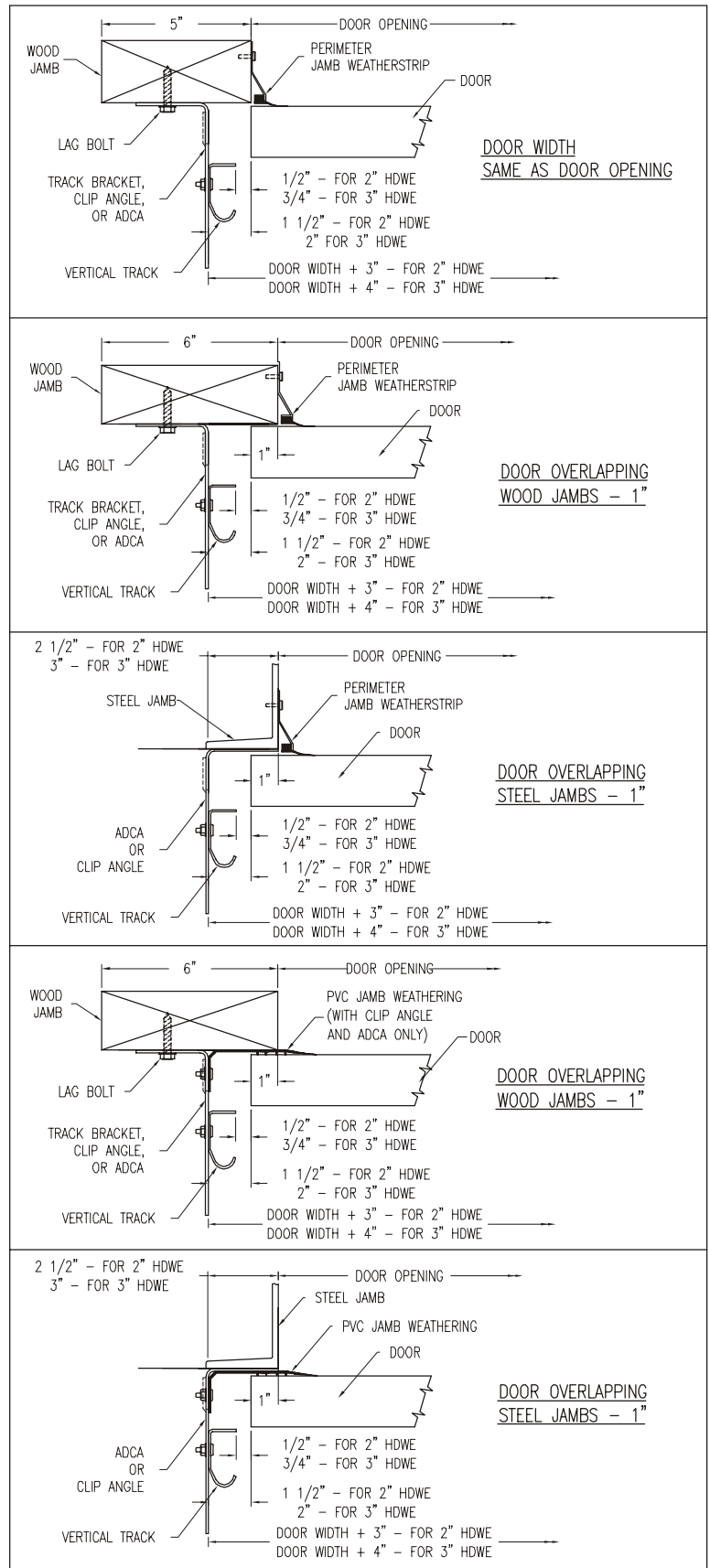


FIG. 10

STEP 9B. (FOR STANDARD LIFT HARDWARE ONLY)
ATTACH THE HEADPLATES TO THE VERTICAL TRACKS AS SHOWN IN FIG. 7, 8, OR 9.

STEP 9C. (FOR HI-LIFT AND VERTICAL LIFT HARDWARE ONLY)
GO TO STEP 10.

STEP 10.
SEE FIG.10 FOR THE MEASUREMENT FROM THE EDGE OF THE JAMB TO THE TRACK BRACKETS OR CONTINUOUS ANGLE. STAND UP ONE VERTICAL TRACK ASSEMBLY AND ATTACH LOOSELY TO THE JAMB IN ITS PROPER LOCATION.

STEP 11.
INSTALL A ROLLER INTO THE END ROLLER BRACKETS ON THE BOTTOM SECTION IN THE SLEEVE FURTHEST AWAY FROM THE DOOR FACE. INSTALL A ROLLER INTO EACH OF THE BOTTOM SECTIONS. STAND THE BOTTOM DOOR SECTION IN PLACE IN THE OPENING, MAKING SURE TO ENGAGE THE TWO ROLLERS AT ONE END INTO THE TRACK ATTACHED TO THE JAMB. PLACE A LEVEL ON THE TOP EDGE OF THE BOTTOM SECTION TO MAKE SURE THE SECTION IS SITTING PERFECTLY LEVELLED IN THE OPENING. PLACE WEDGE OR SHIM UNDER THE SECTION AS NEEDED TO LEVEL IT, SEE FIG.11.

STEP 12.
LOCATE THE OTHER VERTICAL TRACK ASSEMBLY ON THE JAMB ALIGNING IT WITH THE VERTICAL END OF THE BOTTOM SECTION. IF YOU HAD TO SHIM THE END OF THE BOTTOM SECTION TO LEVEL IT YOU MUST ALSO SHIM THE BOTTOM OF THE VERTICAL TRACK AND CONTINUOUS ANGLE AT THAT END BY THE SAME AMOUNT. YOU SHOULD HAVE APPROXIMATELY A 1/2" GAP FOR 2" HARDWARE, AND A 3/4" GAP FOR 3" HARDWARE BETWEEN THE END OF THE DOOR SECTION AND THE EDGE OF THE VERTICAL TRACK. A GAP TOO LARGE WILL ALLOW THE DOOR TO DRIFT TOO MUCH FROM SIDE TO SIDE AND A GAP TOO SMALL WILL CAUSE THE DOOR TO BIND AND THE HINGES AND ROLLERS TO BEND AND POSSIBLY BREAK SOON AFTER THE DOOR IS PUT INTO USE.

STEP 13. (FOR HI-LIFT AND VERTICAL LIFT HARDWARE ONLY).

ASSEMBLE UPPER SECTION OF VERTICAL TRACK ASSEMBLY AS SHOWN IN FIG. 12 OR 13.

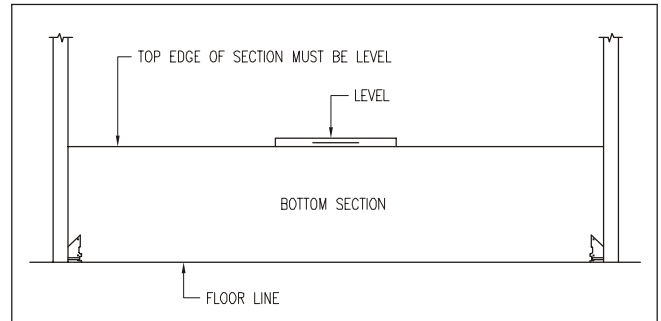


FIG11

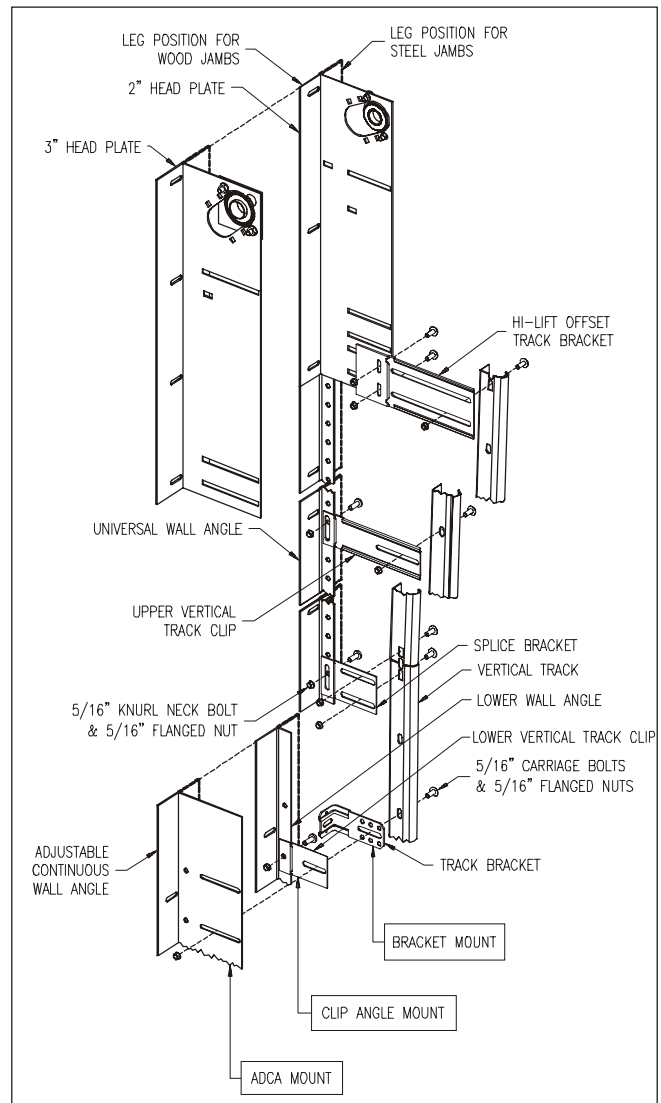


FIG12

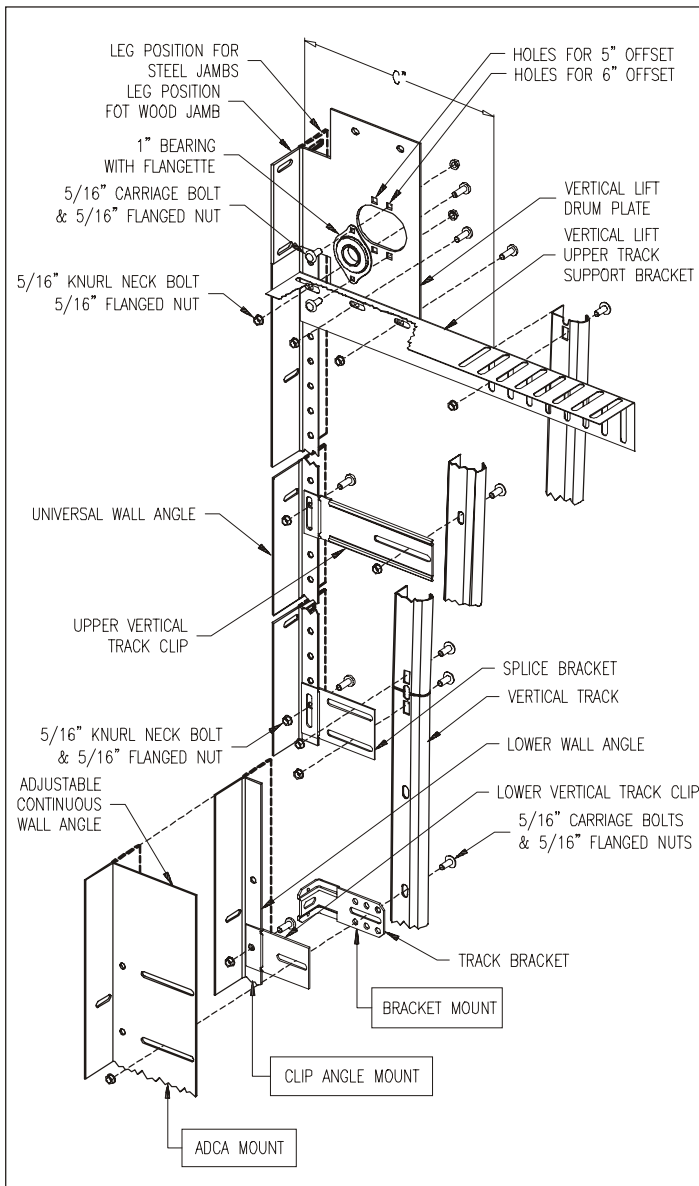


FIG. 13

STEP 14. (FOR HI-LIFT AND VERTICAL LIFT HARDWARE ONLY)

LOCATE THE UPPER VERTICAL TRACK ASSEMBLIES ON THE JAMB ON TOP OF THE LOWER VERTICAL TRACK ASSEMBLIES KEEPING THEM PERFECTLY IN LINE WITH THE LOWER ASSEMBLIES AND SECURE TO THE JAMB.

IMPORTANT: GREAT CARE SHOULD BE TAKEN AT THIS POINT TO ENSURE THAT THE TWO VERTICAL TRACK ASSEMBLIES AND HEADPLATES ARE LOCATED ABSOLUTELY HORIZONTALLY IN LINE WITH EACH OTHER AND COMPLETELY VERTICALLY WITH EACH OTHER. FAILURE TO HAVE THE HEADPLATES CORRECTLY IN LINE WITH EACH OTHER HORIZONTALLY AND VERTICALLY, COULD RESULT IN THE DOOR TWISTING AND BINDING DURING THE OPENING AND CLOSING CYCLE.

STEP 15.

WITH THE TWO VERTICAL TRACK ASSEMBLIES LOCATED EXACTLY IN POSITION, PROCEED WITH THE INSTALLATION OF THE INTERMEDIATE DOOR SECTIONS, ONE AT A TIME, MAKING SURE TO PULL DOWN ON THE SECTION TO COMPRESS THE GASKET BETWEEN THE SECTIONS WHILE ATTACHING THE TOP OF THE END ROLLER BRACKETS AND INTERMEDIATE HINGES FROM THE SECTION BELOW IT (NOT ALL DOORS HAVE GASKETS). CHECK THE NUMBER ON THE END ROLLER BRACKET WITH FIG.3 TO MAKE SURE THE SECTIONS ARE BEING INSTALLED IN THE RIGHT ORDER. AS EACH SECTION IS BEING PUT IN PLACE ATTACH THE REMAINING END ROLLER BRACKET, ALIGNING IT CAREFULLY, AS PREVIOUSLY INSTRUCTED. REMEMBER TO INSTALL A ROLLER INTO THE SLEEVES FURTHEST AWAY FROM THE DOOR FACE ON EACH OF THE END ROLLER BRACKETS.

STEP 16.

WHEN ALL THE SECTIONS (EXCEPT THE TOP SECTION) HAVE BEEN PUT INTO PLACE DOUBLE CHECK THE ALIGNMENT OF THE VERTICAL TRACK ASSEMBLIES TO THE END OF THE DOOR SECTIONS AND SECURELY FASTEN INTO PLACE.

HEADSHAFT ASSEMBLY AND INSTALLATION.

IMPORTANT!!!

SDI RECOMMENDS THAT ONLY EXPERIENCED AND QUALIFIED SECTIONAL DOOR INSTALLERS ASSEMBLE AND INSTALL ALL HEADSHAFT ASSEMBLIES INCLUDING THE TENSIONING OF THE SPRINGS. LIFE THREATENING INJURIES INCLUDING DEATH CAN AND HAVE RESULTED TO UNQUALIFIED INDIVIDUALS ATTEMPTING TO INSTALL AND TENSION SPRINGS ON HEADSHAFT ASSEMBLIES. IF YOU REQUIRE A QUALIFIED DOOR INSTALLER PLEASE CONTACT YOUR NEAREST SDI DISTRIBUTOR.

STEP 17.

CHECK THE TOTAL NUMBER OF SPRINGS, THE LENGTH OF THE SPRINGS, AND THE NUMBER OF LEFT HAND AND RIGHT HAND SPRINGS AGAINST THE SPRING INFORMATION ON THE BOTTOM PORTION OF THE PART LIST.

STEP 18

ASSEMBLE CENTER PLATES AND SUPPORT ANGLES TO THE SPRINGS AS SHOWN IN FIG.14. FOR 5" OFFSET POSITION THE SUPPORT ANGLE IN SUCH A MANNER THAT THE SIDE WITH 5" MARK ON IT (OR 6" FOR THE 6" OFFSET) IS ATTACHED TO THE CENTRE PLATE.

STEP 19

SLIDE THE SPRINGS ONTO THE SHAFT AS SHOWN IN FIG.14 MAKING SURE TO IDENTIFY THE RIGHT HAND FROM THE LEFT HAND SPRING.

STEP 20.

IF THERE ARE ADDITIONAL SHAFT SUPPORT BRACKETS SUPPLIED WITH THE HARDWARE SET SLIDE THEM ONTO THE SHAFT AFTER THE SPRINGS.

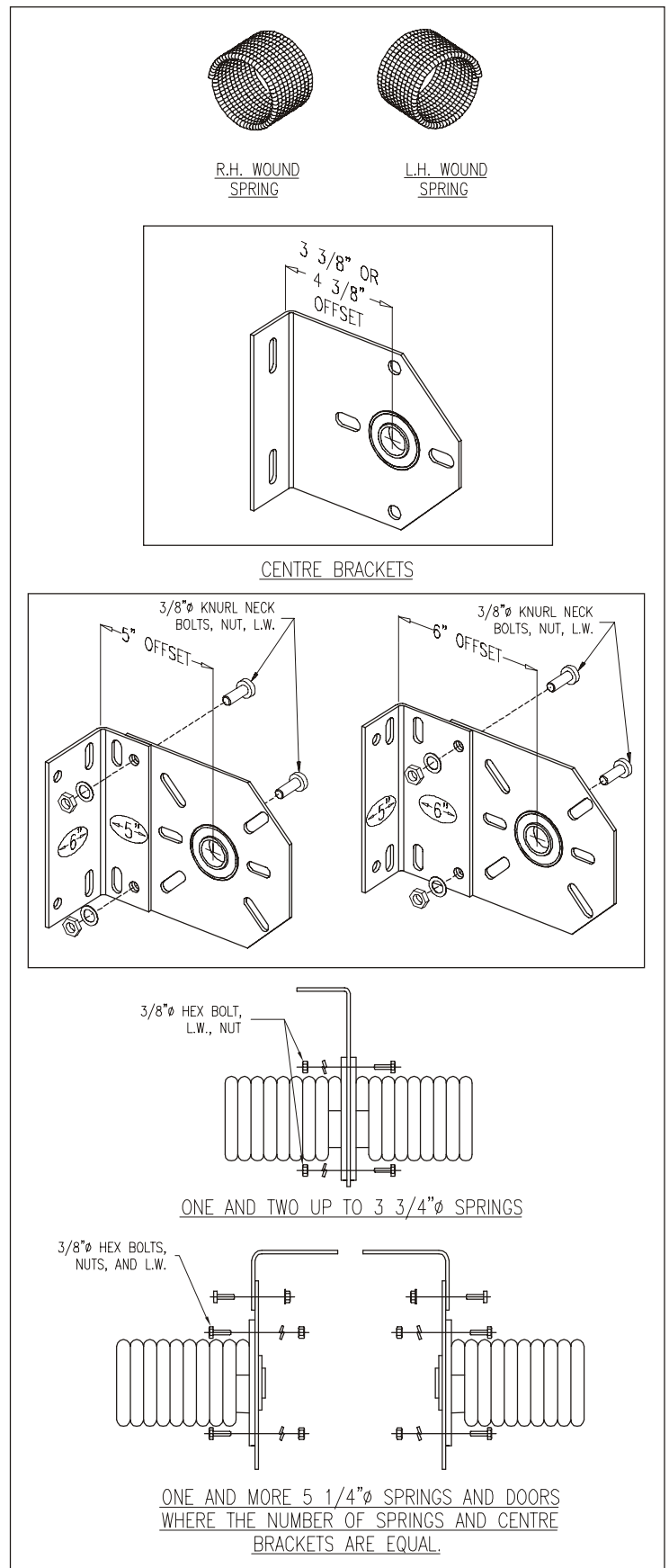
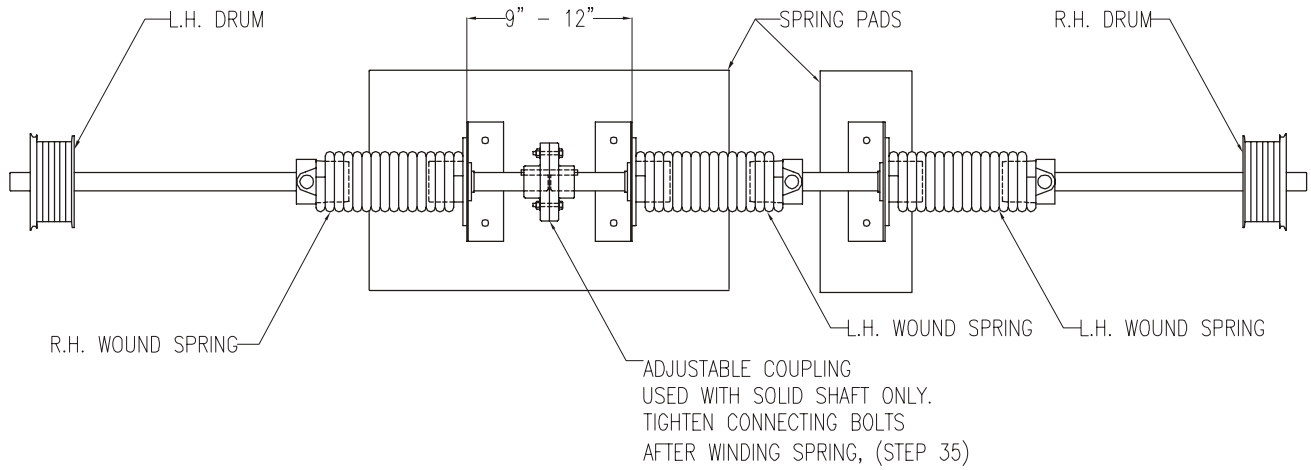


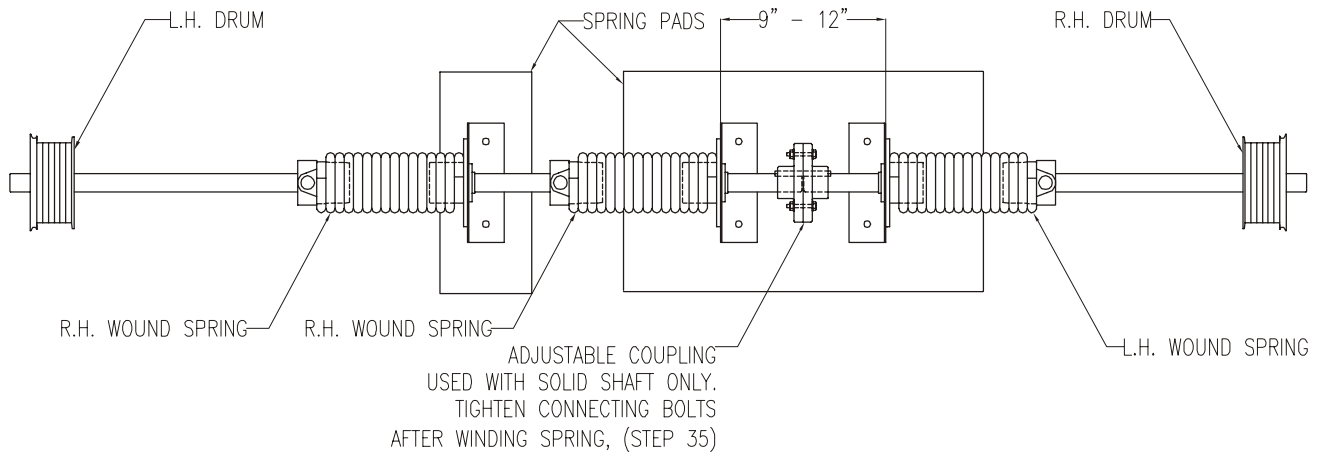
FIG.14

STEP 21.

IDENTIFY THE DRUMS MAKING SURE TO CLEARLY KNOW RIGHT HAND FROM LEFT HAND AND SLIDE THEM ONTO THE SHAFT NEXT, AS SHOWN IN FIG.15.

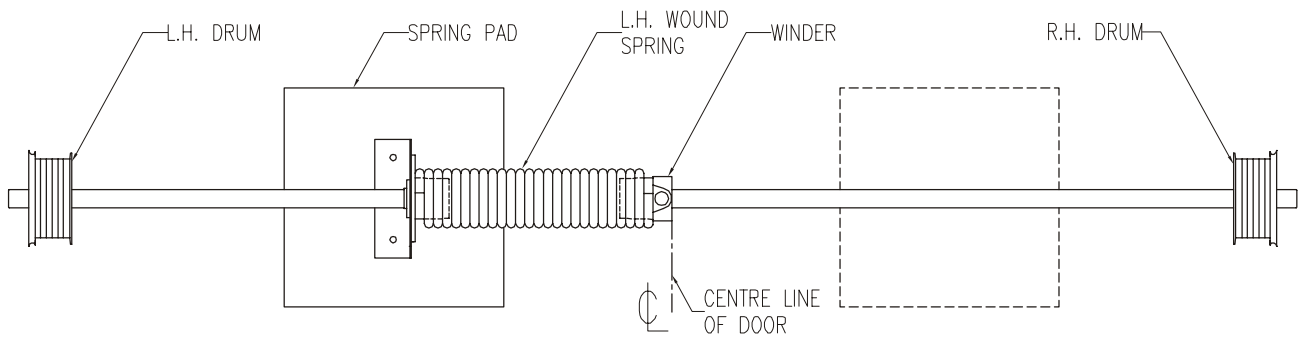


3 SPRINGS ON SOLID SHAFT WITH COUPLING

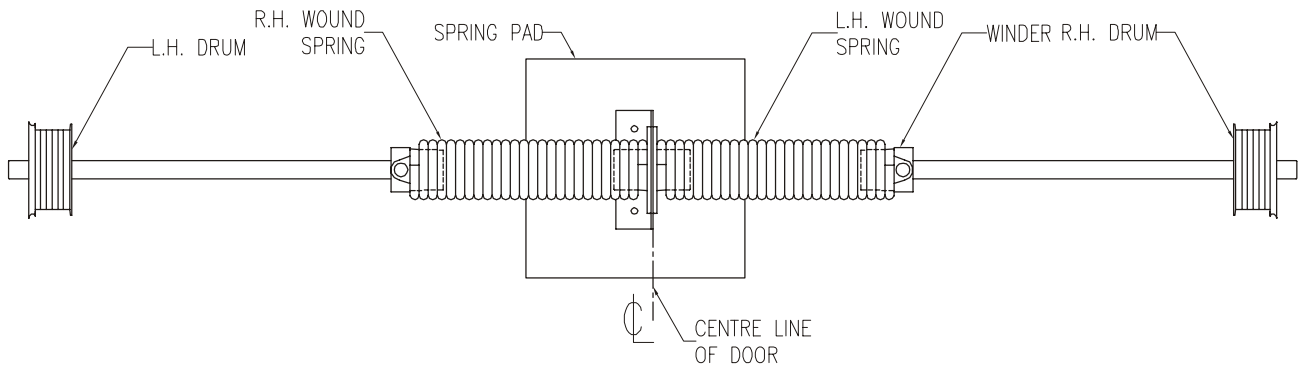


3 SPRINGS ON SOLID SHAFT WITH COUPLING

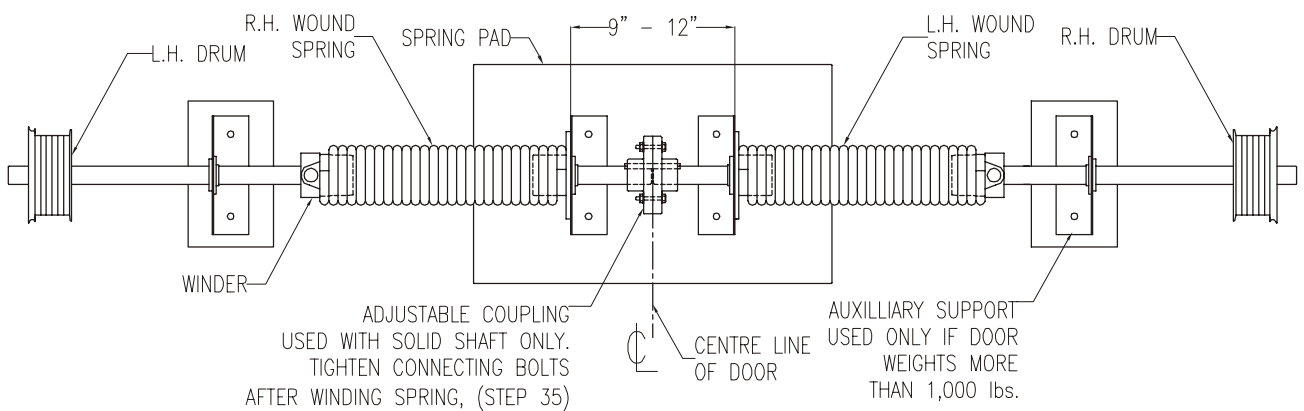
FIG. 15



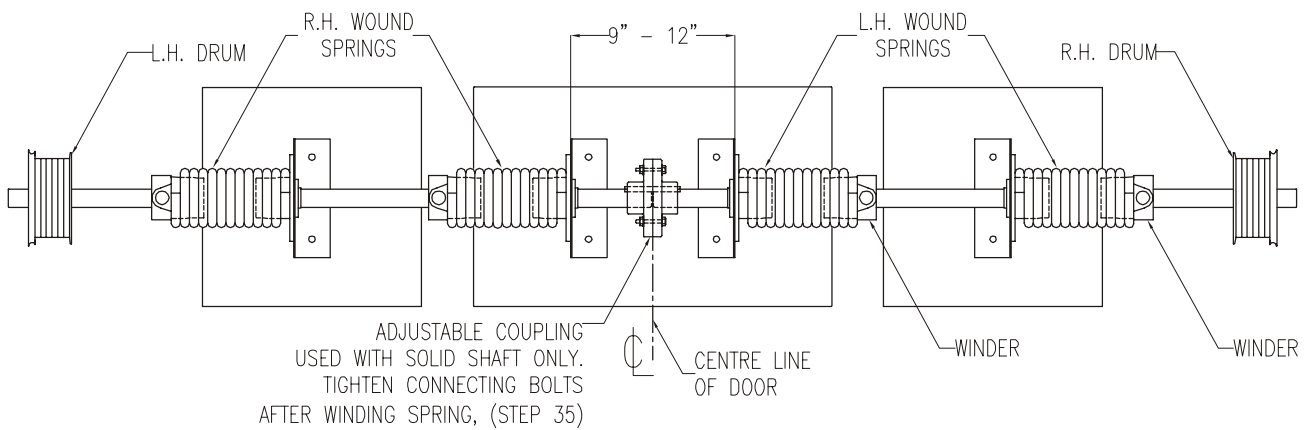
SINGLE TORSION SPRING (MAY BE RIGHT OR LEFT)



TWO SPRINGS ONE CENTRE PLATE



TWO SPRINGS ON SOLID SHAFT WITH COUPLING



FOUR SINGLE SPRINGS OR FOUR DUPLEX SPRINGS

FIG. 15

STEP 22.

IF THE HARDWARE HAS BEEN SUPPLIED WITH A SHAFT COUPLER, SLIDE THE SHAFT COUPLER ONTO THE SHAFT AT THE OPPOSITE END FROM THE DRUMS. SEE DETAIL ON FIG.16.

STEP 23.

INSTALL ALL THE SET SCREWS AND KEYWAYS INTO THE DRUMS, SPRING FITTINGS AND COUPLER (IF COUPLER SUPPLIED).

STEP 24.

HOIST TORSION ASSEMBLY INTO PLACE AT THE TOP OF THE VERTICAL TRACKS AND SLIDE ONE END OF THE SHAFT THROUGH THE BEARING AT THE TOP OF ONE OF THE VERTICAL TRACK ASSEMBLIES, FAR ENOUGH TO ALLOW FOR THE ALIGNMENT AT THE OTHER END OF THE SHAFT WITH THE BEARING ON TOP OF THE OTHER VERTICAL TRACK ASSEMBLY. SLIDE THE SHAFT THROUGH THE OTHER BEARING SO THAT THE SAME AMOUNT OF SHAFT IS PROJECTING OUT OF EACH BEARING. SECURELY SUSPEND IN PLACE, WITH THE HEADSHAFT COMPLETELY STRAIGHT AND LEVEL FROM ONE END TO THE OTHER. FASTEN ALL CENTER BEARING PLATES TO SPRING MOUNTING PADS AS SHOWN IN FIG.17.

IMPORTANT: THE SPRING PADS MUST BE STRUCTURALLY CAPABLE OF WITHSTANDING THE WEIGHT AND THE EXTREME TORSIONAL LOAD THAT WILL BE IMPOSED ON THEM ONCE THE SPRINGS WILL HAVE BEEN FULLY TENSIONED. IT IS RECOMMENDED TO CHECK THIS WITH THE BUILDING SUPPLIER, CONTRACTOR, OR A STRUCTURAL ENGINEER.

STEP 25.

ASSEMBLE HORIZONTAL ANGLE TO HORIZONTAL TRACK AS SHOWN IN FIG.17A.

STEP 25A.

PROCEED WITH THE INSTALLATION OF THE HORIZONTAL TRACKS. POSITION THE RIGHT HAND HORIZONTAL TRACK ON THE RIGHT HAND HEADPLATE AS SHOWN IN FIG.18. FASTEN THE TRACK TO THE HEADPLATE LEAVING THE BOLTS JUST LOOSE ENOUGH SO THE TRACK CAN MOVE IN THE SLOTS. FOLLOW

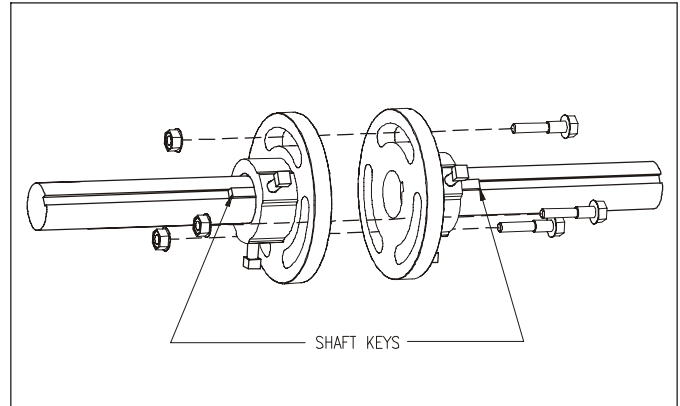


FIG. 16

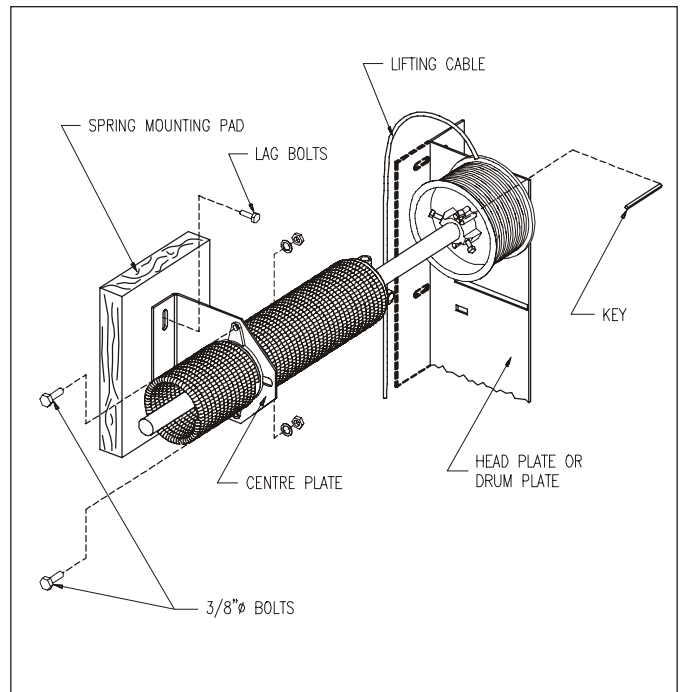


FIG. 17

Mc - DISTANCE FROM THE EDGE OF HORIZONTAL ANGLE TO THE FIRST HOLE OF HORIZONTAL TRACK
(SEE THE PICK LIST).

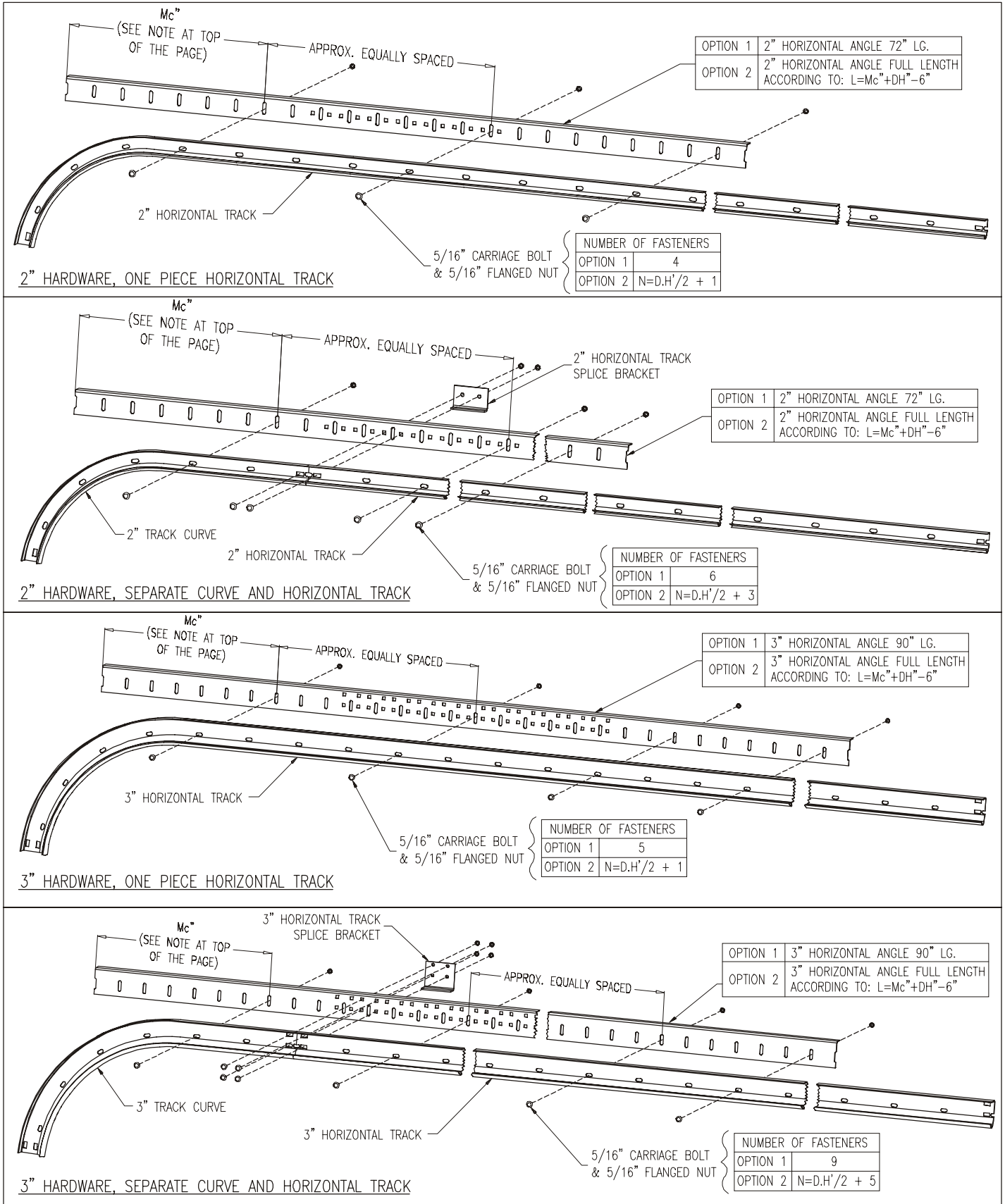


FIG. 17A

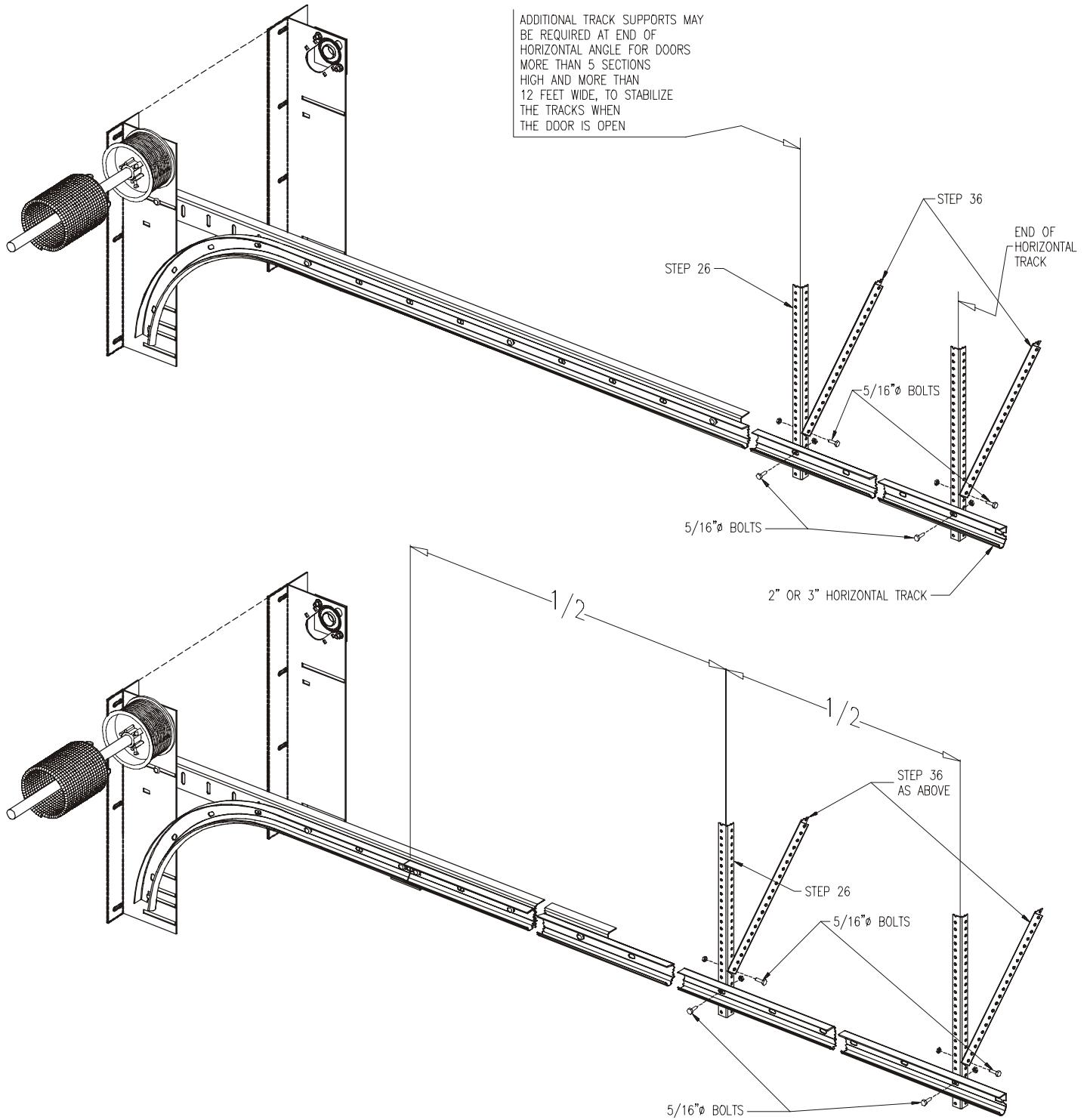


FIG.18

STEP 26.

NEXT DETERMINE HOW TO ATTACH THE OTHER END OF THE HORIZONTAL TRACKS TO THE CEILING JOIST OR RAFTER. PREPARE THE HORIZONTAL TRACK SUPPORTS (NOT SUPPLIED AS A STANDARD PART OF THE HARDWARE SET) AND SUSPEND THE HORIZONTAL TRACK FROM THE CEILING WITH VERTICAL SUPPORT ONLY AT THIS TIME, REMOVE THE ROPE. IF THE DOOR SUPPLIED IS MORE THAN 5 SECTIONS HIGH, THE HORIZONTAL TRACKS SHOULD BE SUSPENDED AT THE MIDWAY POINT AS WELL AS AT THE ENDS. THE TRACK MUST BE LEVEL IF THE DOOR IS TO BE MANUALLY OPERATED, AND ELEVATED FROM THE FRONT TO THE BACK BY 1/4" PER FOOT OF TRACK LENGTH IF THE DOOR IS TO BE OPERATED BY A CHAIN HOIST OR ELECTRIC OPERATOR (8 FOOT TRACK = 8/4 OR 2"). THE TRACK MUST BE SECURE BUT ABLE TO SWING FROM SIDE TO SIDE AT THIS POINT. TEMPORARILY ALIGN AND SECURE THE JOINT BETWEEN THE VERTICAL TRACKS AND THE HORIZONTAL TRACK AT THE CURVE.

STEP 27.

PROCEED WITH THE INSTALLATION OF THE TOP SECTION OF THE DOOR. FOLLOW THE SAME PROCEDURES AS DESCRIBED IN STEP 15. AFTER POSITIONING, SECURE THE TOP SECTION TO THE VERTICAL TRACK BY INSERTING A ROLLER INTO EACH TOP BRACKET. TIGHTEN THE TOP BRACKET WITHOUT CONCERN FOR ITS RELATIONSHIP TO THE HEADER AT THIS POINT.

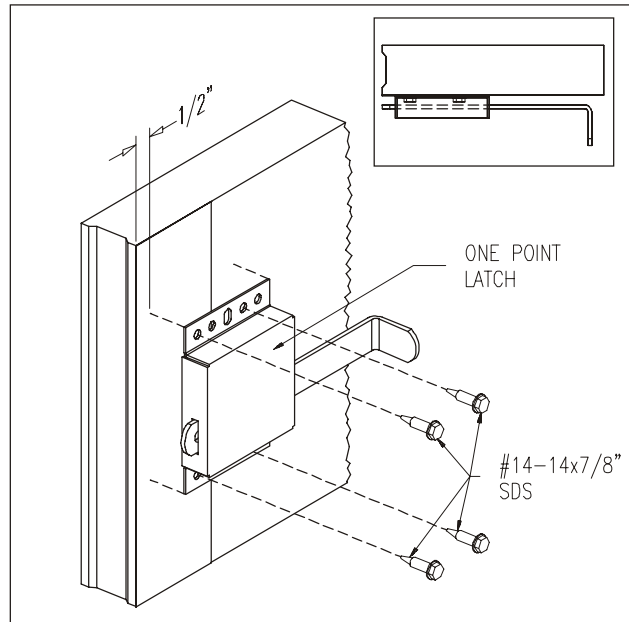


FIG.19

STEP 28.

INSTALL THE ONE POINT SIDE LOCK AS PER FIG.19. (IF THE DOOR SYSTEM HAS BEEN SUPPLIED WITH AN ELECTRIC OPERATOR OR CHAIN HOIST, A LOCKING SYSTEM MAY NOT HAVE BEEN PROVIDED). IF A BAR LATCH LOCKING SYSTEM HAS BEEN SUPPLIED PLEASE GO TO OPTIONAL ITEMS AND SEE FIG.20. IF NO LOCK HAS BEEN PROVIDED PLACE A VICE-GRIP JUST ABOVE ONE ROLLER ON EACH SIDE OF THE DOOR LOCKING THE DOOR IN THE CLOSED POSITION.

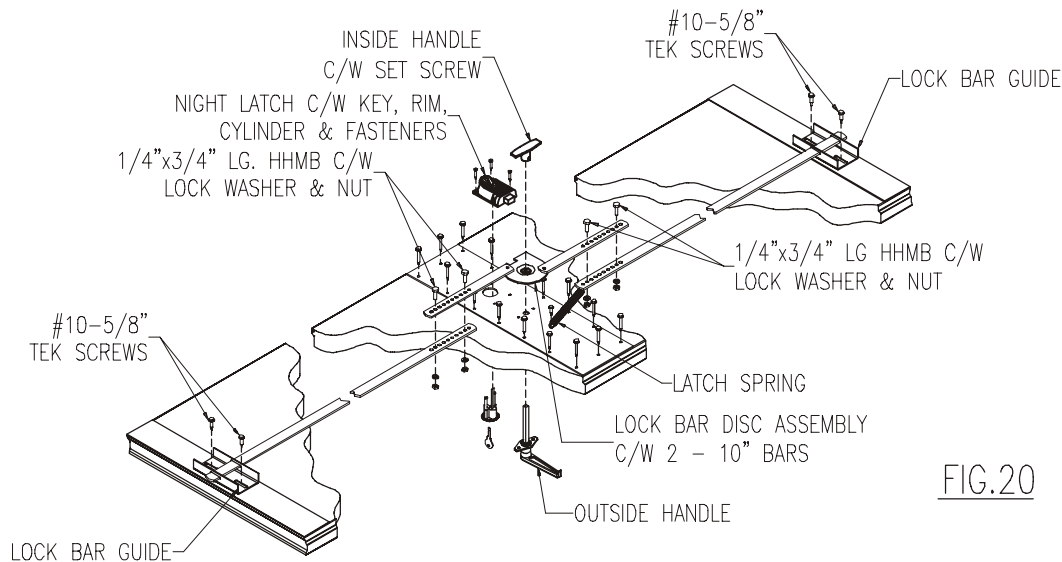


FIG.20

STEP 29.

IF THE DOOR HAS BEEN SUPPLIED WITH A CHAINHOIST, PROCEED WITH THE INSTALLATION AS PER FIG.21.

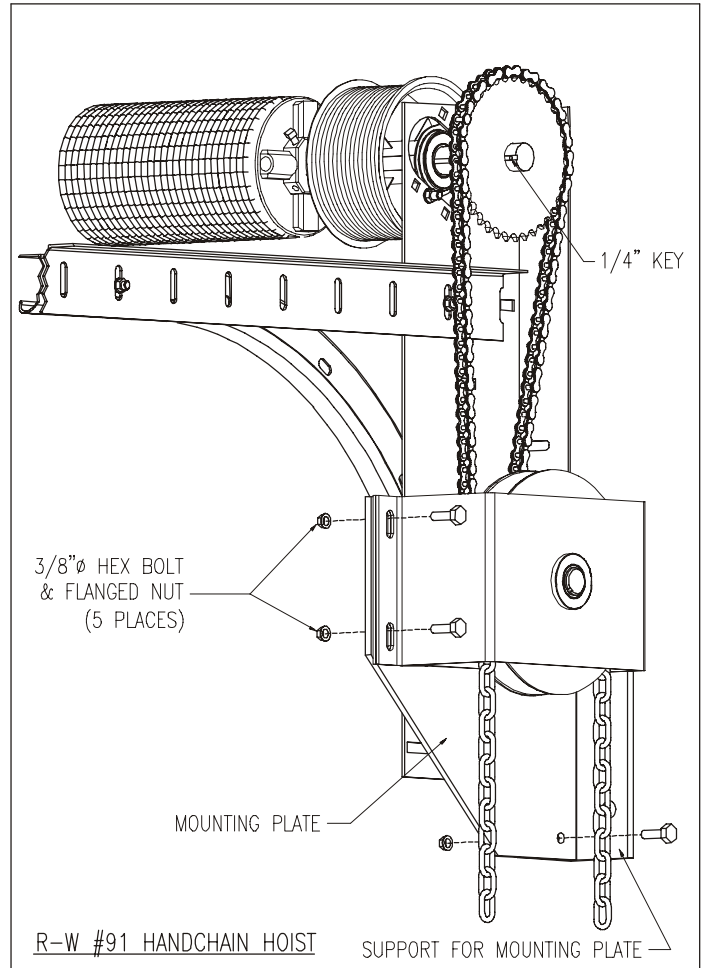
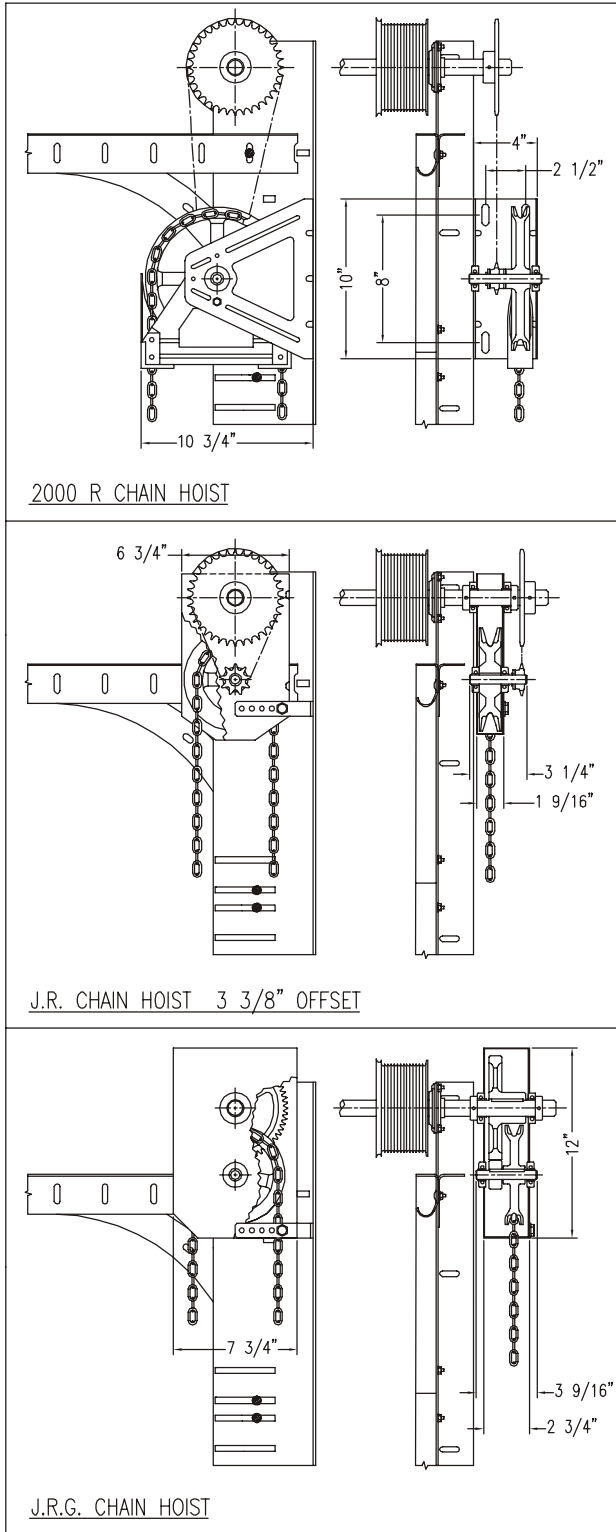


FIG.21

STEP 30

TENSIONING THE SPRINGS IS THE MOST DANGEROUS PART OF ANY SECTIONAL DOOR INSTALLATION. PROCEED WITH EXTREME CAUTION AND IT IS RECOMMENDED THAT IT NOT BE ATTEMPTED ALONE.

AGAIN, SDI RECOMMENDS THAT ONLY QUALIFIED DOOR INSTALLERS APPLY TENSION AND SECURE THE SPRINGS OF A SECTIONAL DOOR.

STEP 31.

PULL THE CABLE ON THE LEFT HAND SIDE OF THE DOOR ALL THE WAY UP TO THE HEADSHAFT ASSEMBLY BY KEEPING IT POSITIONED BETWEEN THE TRACK AND THE JAMB ALL THE WAY TO THE TOP. SLIDE THE LEFT HAND DRUM ALL THE WAY TO THE LEFT UNTIL IT IS POSITIONED FIRMLY AGAINST THE BEARING ON THAT SIDE (IT IS IMPORTANT THAT NO SPACE EXISTS BETWEEN THE END OF THE BEARING AND THE DRUM). BRING THE CABLE UP FROM BEHIND THE DRUM AND INSERT THE CABLE INTO THE CABLE ENTRY SLOT ON THE DRUM AS SHOWN IN FIG.17. ROTATE THE TOP OF THE DRUM AWAY FROM THE HEADER UNTIL ALL THE CABLE IS CAREFULLY WRAPPED ON THE DRUM STARTING WITH THE FIRST GROOVE. ALIGN THE KEYWAY IN THE DRUM WITH THE KEYWAY IN THE SHAFT AND INSTALL THE KEY. TIGHTEN THE SET SCREWS ON THE DRUM, TURN THE DRUM TILL THE CABLE IS HAND TAUT. SECURE A VICE-GRIP ON THE SHAFT BETWEEN THE DRUM AND THE SPRINGS SO THAT THE END OF THE VICE-GRIPS WILL BE FIRMLY AGAINST THE HEADER KEEPING THE CABLE TAUT, SEE FIG.22. NOW FOLLOW THE SAME PROCEDURE FOR THE RIGHT HAND SIDE EXCEPT THAT YOU WILL ONLY NEED TO PLACE VICE-GRIPS ON THE SHAFT AT THAT END IF YOU HAVE A SPLIT SHAFT WITH COUPLER.

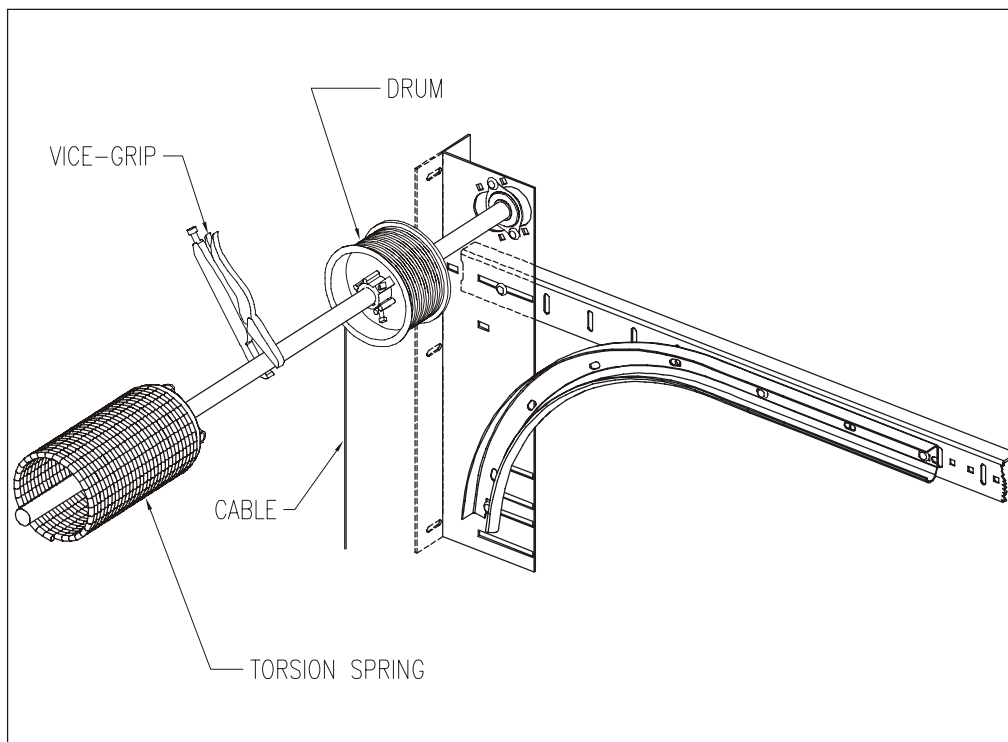


FIG.22

STEP 32.

TO PUT TENSION ON THE SPRINGS YOU WILL NEED TO OBTAIN 2 WINDING BARS APPROX. 24" LONG (BOTH MUST BE THE SAME LENGTH). THESE WINDING BARS MUST BE MADE FROM HIGH STRENGTH STEEL AND MACHINED TO EXACTLY FIT THE HOLES IN THE WINDER IN ONE END OF EACH SPRING. THE PERSON WINDING THE SPRING MUST BE POSITIONED JUST PAST THE END OF THE SPRING AND STANDING ON A VERY SECURE PLATFORM. THERE SHOULD BE NO PART OF THE SPRING OR WINDER DIRECTLY IN FRONT OF THE PERSON DOING THE WINDING. LOOSEN THE SET SCREWS AND REMOVE THE KEYWAY FROM THAT SPRING. WITH ONE HAND ROTATE THE SPRING WINDER BACK AND FORTH MAKING SURE THE WINDER IS FREE ON THE SHAFT. CHECK AT THE BOTTOM OF THE PARTS LIST FOR THE TOTAL NUMBER OF TURNS TO BE APPLIED TO THE SPRINGS. WITH A PIECE OF CHALK, DRAW A STRAIGHT LINE ON THE SPRING FROM ONE END TO THE OTHER. IF THE DOOR SYSTEM HAS BEEN SUPPLIED WITH AN INNER OUTER DUPLEX SPRING ASSEMBLY, FOLLOW THE ABOVE INSTRUCTIONS FOR THE OUTER SPRINGS ONLY.

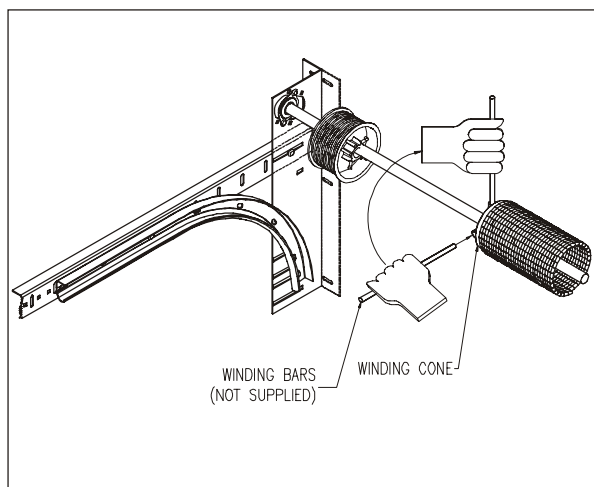


FIG.23

STEP 33.

TENSIONING OF THE SPRING MUST BE DONE IN $\frac{1}{4}$ TURNS. (IF THE TOTAL TURNS TO BE WOUND ON THE SPRING IS 10.5, APPLY $10.5 \times 4 = 42$ QUARTER TURNS).

THE FOLLOWING INSTRUCTIONS ARE FOR ALL SINGLE SPRING ASSEMBLIES AND THE OUTER SPRING ONLY OF AN INNER OUTER DUPLEX SPRING ASSEMBLY, SEE FIG.23. INSERT ONE OF THE WINDING BARS COMPLETELY INTO THE SPRING WINDER AND PUSH UP UNTIL IT IS POSSIBLE TO INSERT THE SECOND WINDING BAR COMPLETELY INTO THE NEXT HOLE IN THE WINDER AS IT COMES AROUND FROM THE BOTTOM. ONCE INSERTED, ALLOW THE SPRING TO COME BACK VERY SLOWLY UNTIL THE SECOND WINDING BAR IS FIRMLY RESTING AGAINST THE TOP SECTION OF THE DOOR OR THE WALL. REMOVE THE FIRST OR UPPER MOST WINDING BAR AND HOLD IT IN POSITION READY TO REPEAT THIS CYCLE. FOLLOW THIS PROCEDURE UNTIL THE CORRECT TOTAL NUMBER OF $\frac{1}{4}$ TURNS HAVE BEEN APPLIED TO THE SPRING, REMEMBER TO **NEVER ALLOW THE WINDER AND THE WINDING BARS TO BECOME POSITIONED DIRECTLY IN FRONT OF THE PERSON WINDING.** ALWAYS PUSH UP ON THE WINDING BARS, AND WHEN DOING SO, THE SPRING SHOULD BE GETTING LONGER IN LENGTH AND SMALLER IN DIAMETER AS THE WINDS ARE BEING APPLIED. IF THIS IS NOT WHAT IS HAPPENING, STOP WINDING THE SPRINGS IMMEDIATELY AND CHECK THE INSTRUCTIONS ON HOW TO IDENTIFY, ASSEMBLE, AND MOUNT SPRINGS. IF NO ERROR IS VISIBLE PLEASE CONTACT YOUR NEAREST RICHARDS-WILCOX DEALER OR CALL THE FACTORY AT 1-905-564-1160 AND ASK FOR TECHNICAL ASSISTANCE.

STEP 34A.

ONCE THE SPRING HAS BEEN WOUND TO THE CORRECT NUMBER OF TURNS, CAREFULLY ALIGN THE KEYWAY ON THE SHAFT WITH THE KEYWAY IN THE SPRING WINDER, SLIDE THE KEY FULLY INTO PLACE AND TIGHTEN ALL THE SET SCREWS BEFORE REMOVING ANY WINDING BARS. IF YOUR SPRING WINDER DOES NOT HAVE A KEYWAY, TIGHTEN ALL THE SET SCREWS BEFORE REMOVING ANY WINDING BARS. REPEAT THIS PROCEDURE UNTIL ALL THE SPRINGS HAVE BEEN WOUND TO THE SAME NUMBER OF TURNS.

STEP 34B.

TO WIND THE INNER SPRING OF AN INNER OUTER DUPLEX SPRING ASSEMBLY INSERT THE WINDING BARS INTO THE SPRING WINDER FOR THE INNER SPRING AND APPLY THE WINDS BY PULLING DOWN, WITH TWO WINDING BARS, $\frac{1}{4}$ TURN AT A TIME. THE INNER SPRINGS MUST BE WOUND AFTER THE OUTER SPRINGS HAVE BEEN WOUND AND SECURED IN STEP 34A. THE SAME NUMBER OF TURNS MUST BE PLACED ON THE INNER SPRINGS AS THE OUTER SPRINGS. ONCE THE INNER SPRINGS HAVE BEEN WOUND TO THEIR CORRECT NUMBER OF TURNS INSTALL PIN AND COTTER PIN AS SHOWN IN FIG.15 DETAIL "A" TO SECURE THE WINDING END OF THE INNER SPRING. **IMPORTANT: NEVER ADJUST THE OUTER SPRING OF AN INNER OUTER DUPLEX ASSEMBLY UNTIL THE INNER SPRING HAS BEEN COMPLETELY UNWOUND.**

STEP 35.

IF THE DOOR SUPPLIED HAS A SPLIT SHAFT WITH A COUPLER, NOW IS THE TIME TO ALIGN THE TWO HALVES OF THE COUPLER, INSTALL THE KEYWAYS, AND TIGHTEN ALL THE SET SCREWS AND BOLTS JOINING THE COUPLER TOGETHER. REMOVE ALL VICE GRIPS FROM THE SHAFT.

STEP 36.

TIE A PULL ROPE TO THE BOTTOM ROLLER BRACKET ON THE BOTTOM SECTION AS SHOWN IN FIG.1. CAREFULLY UNLOCK THE DOOR AND REMOVE THE VICE GRIPS FROM THE VERTICAL TRACKS HANGING ON TO THE ROPE TIGHTLY AT THE SAME TIME. SLOWLY RAISE THE DOOR $\frac{1}{3}$ TO $\frac{1}{2}$ OPEN AND TIE ROPE SO THE DOOR CANNOT GO UP ANY HIGHER. NOW VISUALLY ALIGN THE HORIZONTAL TRACKS BY MOVING THEM FROM SIDE TO SIDE TILL A $\frac{1}{2}$ " GAP FOR 2" HARDWARE AND $\frac{3}{4}$ " GAP FOR 3" HARDWARE HAS BEEN ESTABLISHED BETWEEN THE DOOR AND THE HORIZONTAL TRACK FOR THE FULL LENGTH. MEASURE, CUT AND INSTALL THE SWAY BRACES AS SHOWN IN FIG.18 TO SOLIDLY SECURE THE TRACK IN ITS PLACE. REMEMBER THAT IF THE DOOR IS MORE THAN 5 SECTIONS HIGH IT SHOULD BE SUSPENDED AND BRACED TWICE ALONG THE LENGTH OF EACH HORIZONTAL TRACK.

STEP 34B.

TO WIND THE INNER SPRING OF AN INNER OUTER DUPLEX SPRING ASSEMBLY INSERT THE WINDING BARS INTO THE SPRING WINDER FOR THE INNER SPRING AND APPLY THE WINDS BY PULLING DOWN, WITH TWO WINDING BARS, $\frac{1}{4}$ TURN AT A TIME. THE INNER SPRINGS MUST BE WOUND AFTER THE OUTER SPRINGS HAVE BEEN WOUND AND SECURED IN STEP 34A. THE SAME NUMBER OF TURNS MUST BE PLACED ON THE INNER SPRINGS AS THE OUTER SPRINGS. ONCE THE INNER SPRINGS HAVE BEEN WOUND TO THEIR CORRECT NUMBER OF TURNS INSTALL PIN AND COTTER PIN AS SHOWN IN FIG.15 DETAIL "A" TO SECURE THE WINDING END OF THE INNER SPRING. **IMPORTANT: NEVER ADJUST THE OUTER SPRING OF AN INNER OUTER DUPLEX ASSEMBLY UNTIL THE INNER SPRING HAS BEEN COMPLETELY UNWOUND.**

STEP 35.

IF THE DOOR SUPPLIED HAS A SPLIT SHAFT WITH A COUPLER, NOW IS THE TIME TO ALIGN THE TWO HALVES OF THE COUPLER, INSTALL THE KEYWAYS, AND TIGHTEN ALL THE SET SCREWS AND BOLTS JOINING THE COUPLER TOGETHER. REMOVE ALL VICE GRIPS FROM THE SHAFT.

STEP 36.

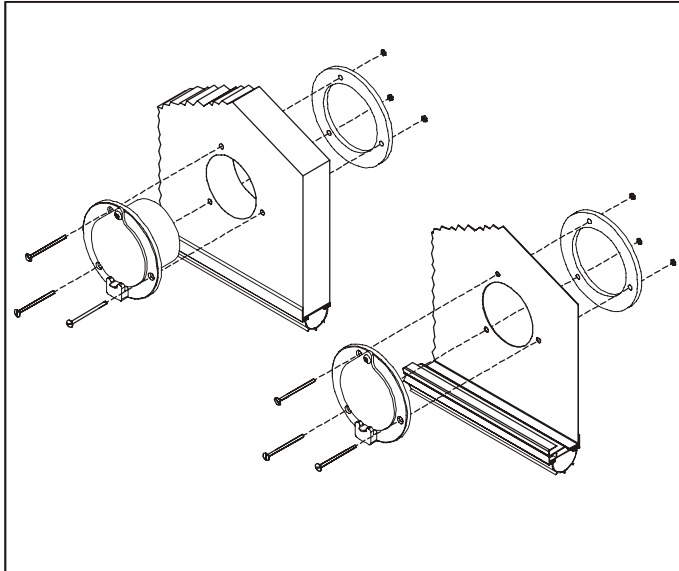
TIE A PULL ROPE TO THE BOTTOM ROLLER BRACKET ON THE BOTTOM SECTION AS SHOWN IN FIG.1. CAREFULLY UNLOCK THE DOOR AND REMOVE THE VICE GRIPS FROM THE VERTICAL TRACKS HANGING ON TO THE ROPE TIGHTLY AT THE SAME TIME. SLOWLY RAISE THE DOOR $\frac{1}{3}$ TO $\frac{1}{2}$ OPEN AND TIE ROPE SO THE DOOR CANNOT GO UP ANY HIGHER. NOW VISUALLY ALIGN THE HORIZONTAL TRACKS BY MOVING THEM FROM SIDE TO SIDE TILL A $\frac{1}{2}$ " GAP FOR 2" HARDWARE AND $\frac{3}{4}$ " GAP FOR 3" HARDWARE HAS BEEN ESTABLISHED BETWEEN THE DOOR AND THE HORIZONTAL TRACK FOR THE FULL LENGTH. MEASURE, CUT AND INSTALL THE SWAY BRACES AS SHOWN IN FIG.18 TO SOLIDLY SECURE THE TRACK IN ITS PLACE. REMEMBER THAT IF THE DOOR IS MORE THAN 5 SECTIONS HIGH IT SHOULD BE SUSPENDED AND BRACED TWICE ALONG THE LENGTH OF EACH HORIZONTAL TRACK.

STEP 40.

LUBRICATE TORSION SPRINGS AND ALL MOVING PARTS WITH OIL.

STEP 41.

IDENTIFY AND INSTALL ANY OF THE REMAINING ACCESSORIES AS SHOWN IN THE ILLUSTRATION RELATED TO IT.



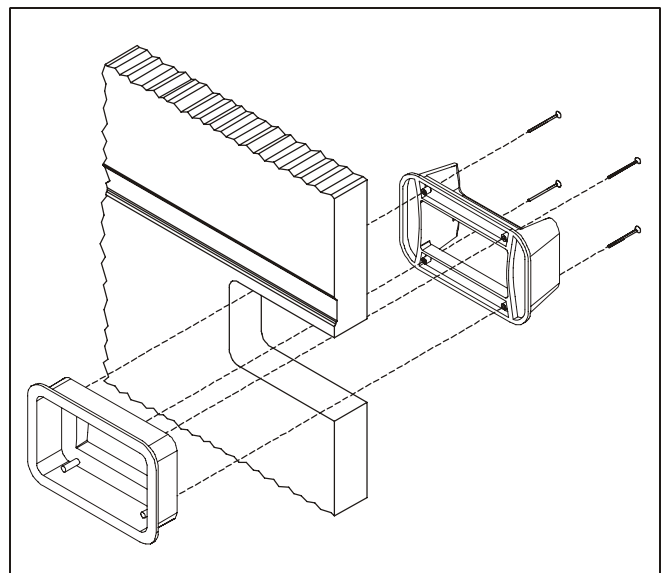
HOLES FOR SPECIFIED EXHAUST PORT TO BE CUT BY SDI

DRILL HOLES FOR SCREWS USING MALE PART AS A TEMPLATE.

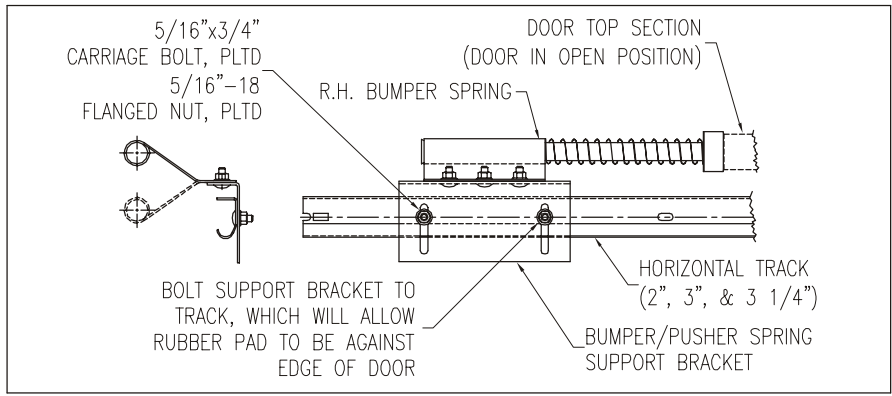
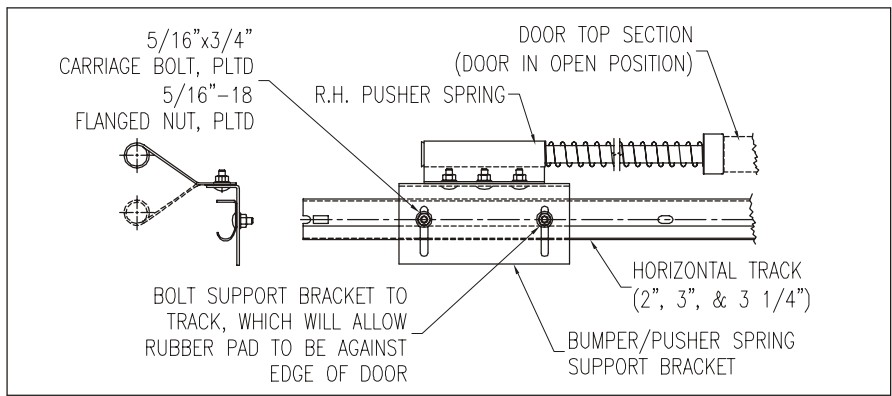
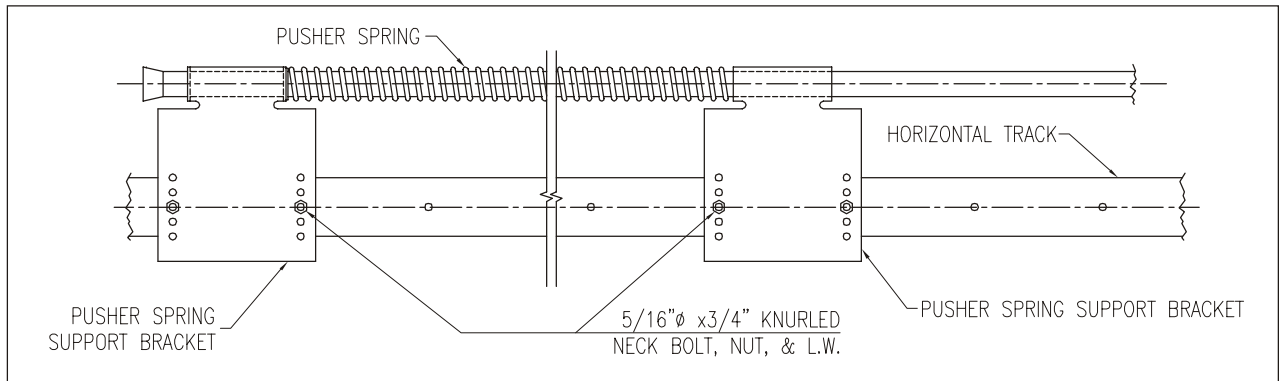
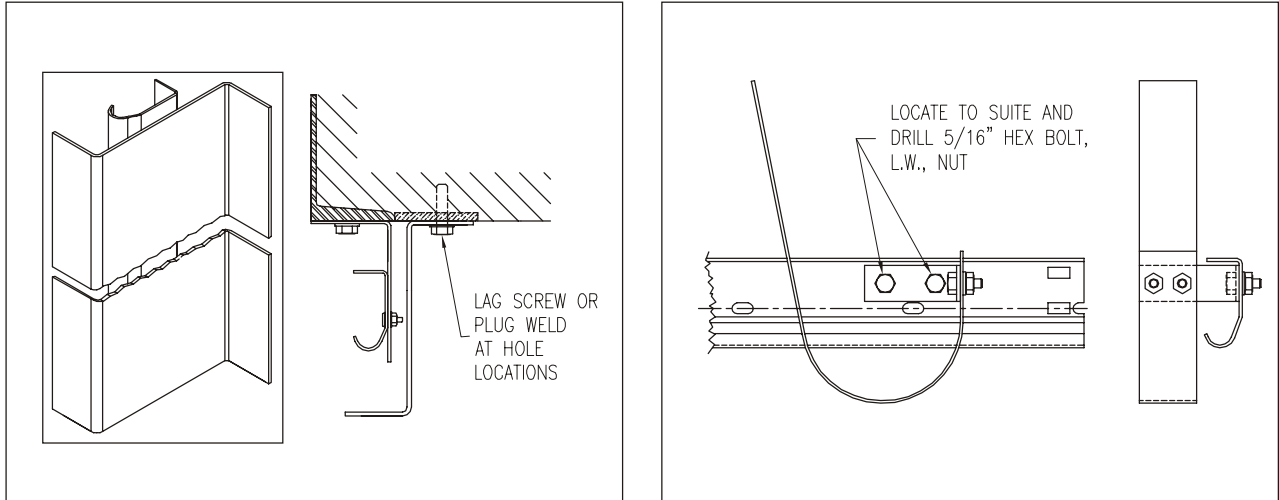
POSITION 2 PARTS OF EXHAUST PORT AT HOLE AND BOLT THEM TOGETHER WITH BOLTS AND NUTS PROVIDED.

CUT OUT HOLE APPROXIMATELY 6" FROM THE BOTTOM ON DESIRED SIDE OF PANEL FOR STEP PLATE / LIFT HANDLE ACCORDING TO DIMENSIONS SHOWN ON THE BACK OF STEP PLATE PORTION.

INSERT PARTS FROM BOTH SIDES OF SECTION AND SCREW THEM TOGETHER WITH 4 SCREWS PROVIDED.



STEP 41. (CONTINUED)



MAINTENANCE INSTRUCTIONS

TO ENSURE SAFE OPERATION OF YOUR SDI SECTIONAL OVERHEAD DOOR AND HARDWARE, PERIODIC MAINTENANCE IS REQUIRED. THE FOLLOWING PROCEDURES SHOULD BE FOLLOWED AT LEAST EVERY SIX MONTHS (MORE OFTEN IN THE CASE OF DOORS EXPERIENCING HEAVY USE).

1. INSPECT LIFTING CABLES. RELIEVE TENSION ON SPRINGS BEFORE INSPECTING THE LIFTING CABLES. READ STEPS 32 AND 35 FOR INSTRUCTIONS ON HOW TO WIND THE SPRINGS (SDI RECOMMENDS THAT ONLY EXPERIENCED INSTALLERS WIND AND UNWIND SPRINGS. INEXPERIENCE CAN RESULT IN SERIOUS INJURIES AND DEATH!!!). CHECK THE CABLE THROUGH THE ENTIRE LENGTH AND ENSURE THAT THE CABLE IS PROPERLY SECURED AT THE DRUM AND AT THE BOTTOM ROLLER BRACKET. IF THE CABLES HAVE BECOME SNAGGED, BENT, OR TANGLED, THEY SHOULD BE REPLACED. THE CABLES COULD APPEAR TO BE IN GOOD CONDITION, HOWEVER, INTERNAL DAMAGE MAY HAVE BEEN DONE AND FRACTURE OF THE CABLE COULD FOLLOW. USE EXTREME CARE WHEN WORKING WITH THE CABLES.

2. ALL BEARINGS AND ROLLERS THROUGHOUT THE DOOR AND HEADSHAFT ASSEMBLY SHOULD BE CLEANED AND LUBRICATED. CONTACT YOUR SDI DISTRIBUTOR FOR A PROPER SECTIONAL DOOR LUBRICANT.

3. ALL OF THE ROLLER BRACKETS, INTERMEDIATE HINGES AND THE STRUTS SHOULD BE CHECKED FOR SECURITY. TIGHTEN ANY LOOSE FASTENERS AND REPLACE ANY HINGES OR ROLLER BRACKETS WHICH ARE FRACTURED IN ANY WAY.

4. CHECK ALL THE ROLLERS AND IF ANY APPEAR WOBBLY THEY SHOULD BE REPLACED.

5. CHECK THE FASTENING OF THE VERTICAL TRACKS AND THE HORIZONTAL TRACK HANGERS AND TIGHTEN ANY LOOSE FASTENERS.

6. EXAMINE AND OIL THE TORSION SPRINGS. IF REPLACEMENT SPRINGS ARE REQUIRED CHECK YOUR PARTS LIST FOR DETAILS AND ORDER THE SPRINGS FROM YOUR NEAREST SDI DISTRIBUTOR.

7. WHEN ORDERING PARTS, SPECIFY THE PART NUMBER AND DESCRIPTION FROM YOUR PARTS LIST.

CALL SDI AT 905-670-1200 FOR THE DISTRIBUTOR CLOSEST TO YOU.

8. AFTER REWINDING THE SPRINGS OPEN AND CLOSE DOOR CHECKING FOR PROPER CLEARANCES BETWEEN THE DOOR AND THE TRACK. LISTEN FOR ANY SCRAPING NOISES, INVESTIGATE THE CAUSE AND MAKE NECESSARY ADJUSTMENTS.