BUDGIT

LIFTTECH

LIFT-TECH INTERNATIONAL, INC.
CRANE AND HOIST OPERATIONS
MUSKEGON, MICHIGAN 49443

BUDGIT® CRANE BRIDGE TRUCK KIT INSTRUCTIONS AND PARTS LIST

CATALOG 62 and 63 PUSH TYPE
CATALOG 62G AND 63G HAND GEARED TYPE

TO BUILD UNDERHUNG CRANE BRIDGES

GENERAL

These crane bridge truck kits contain all parts needed, except the bridge I-beam and cross shaft (on geared models) to build underhung, single girder crane bridges in rated loads and spans (*) charted below.

Each kit includes two end truck frames, four BUDGIT I-beam trolleys and the required hardware for attaching truck frames to bridge I-beam. Catalog 62 and 63 kits contain four push type trolleys. Catalog 62G and 63G kits contain 2 push type and 2 geared type trolleys, and also include: hand chain, chain wheel, chain guide, shaft couplings, and cross shaft support bracket with shaft bearing.

(*) Center-to-center distance between runway beams.

MATERIAL TO BE PURCHASED LOCALLY TO COMPLETE A CRANE BRIDGE

1. **Bridge Beam.** Obtain one length of American Standard Section I-Beam of the size recommended (see chart) for the required capacity and span of bridge. The beam that you order must be a minimum of 8 inches longer than the span of the bridge. If desired, the beam can be extended beyond the end trucks at one or both ends to the maximum dimension shown in the outline diagram.

NOTE: Four 21/32 inch holes must be drilled at each end of bridge beam, in the top flange, for mounting of truck frames. The holes must be located for correct bridge span and must be properly spaced to suit size of I-beam being used. See "I-Beam Drilling Template" page attached.

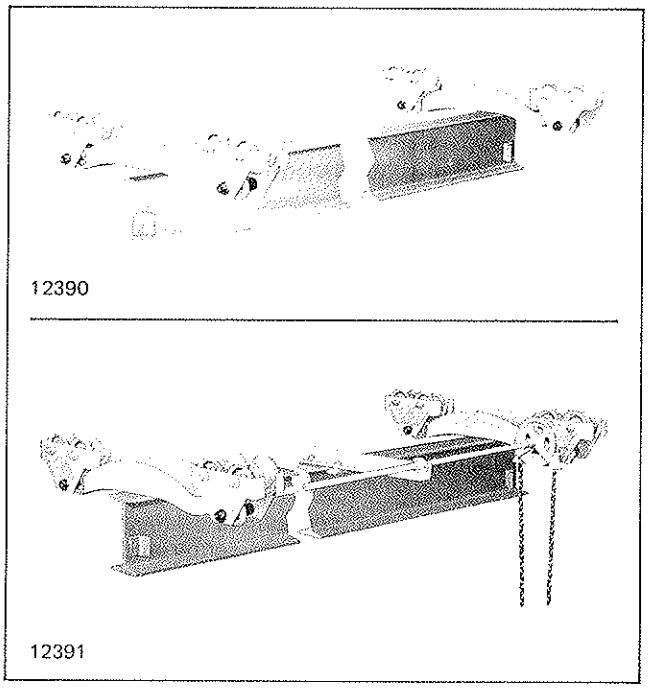


FIGURE 1.

2. **Cross Shaft** (Hand Geared Bridges Only). A length of 1 inch diameter shaft (cold rolled steel) is required for the cross shaft. The length needed will depend on bridge span and can be determined by referring to the outline dimension diagram.

SIZES OF BRIDGES THAT CAN BE BUILT WITH THESE TRUCK KITS

(*) Rated Load in Tons	(**) BEAM SIZES FOR VARIOUS SPANS						
	Spans to 10 ft. 0"	Spans to 15 ft. 0"	Spans to 17 ft. 6"	Spans to 20 ft. 0"	Spans to 25 ft. 0"	Spans to 27 ft. 6"	Spans to 30 ft. 0"
	Size of Beam	Size of Beam	Size of Beam	Size of Beam	Size of Beam	Size of Beam	Size of Beam
KIT CATALOG NUMBERS 62 AND 62G							
1/4	7" x 15.3	7" x 15.3	7" x 15.3	8" x 18.4	10" x 25.4	10" x 25.4	10" x 25.4
1/2	7" x 15.3	7" x 15.3	8" x 18.4	8" x 18.4	10" x 25.4	10" x 25.4	12" x 31.8
1	7" x 15.3	8" x 18.4	10" x 25.4	10" x 25.4	12" x 31.8	12" x 31.8	12" x 40.8
1-1/2	8" x 18.4	10" x 25.4	10" x 25.4	12" x 31.8	12" x 40.8	12" x 40.8	15" x 42.9
2	10" x 25.4	12" x 31.8	12" x 31.8	12" x 31.8			
KIT CATALOG NUMBERS 63 AND 63G							
2					15" x 42.9	18" x 54.7	18" x 54.7
3	12" x 31.8	12" x 40.8	12" x 40.8	15" x 42.9	18" x 54.7	18" x 54.7	

*Rated load is based on maximum combined hoist and trolley weights of: 300 pounds thru 1 ton rated bridge; 400 pounds for 1-1/2 and 2 ton rated bridges; and 500 pounds for 3 ton rated bridge.

**Beam sizes listed are American Standard I-Beam sections. Use ASTM A36 grade steel, first quality, free of rust and excessive mill scale.

3. Additional Cross Shaft Supports and Couplings. For hand geared bridges, one (1) complete cross shaft bracket and bearing assembly is furnished with truck kit to accommodate bridge spans thru 15 feet. Additional bracket and bearing assemblies are required for spans longer than 15 feet. Use Catalog 905451 for 62G bridges and Catalog 905450 for 63G bridges, as follows:

a. Use one additional bracket assembly for spans from 15 ft. thru 22 ft.-6 inches.

b. Use two additional bracket assemblies for spans from 22 ft.-6 inches thru 30 ft.

If it is necessary to use two sections of cross shaft, use an additional coupling, Catalog 905452.

4. Trolley Stops. Four (4) angles must be cut to size per table on page 5.

WARNING

Trolley stops (clip angles) must be installed on both ends of bridge beam (see outline diagram) to prevent hoist trolley from running off end of beam, which could result in injury to operator and others and damage to load and other property.

INSTRUCTIONS FOR ASSEMBLING CRANE BRIDGE

1. Locate and drill truck frame mounting holes in flange of I-beam.

a. Layout and scribe two centerlines on flange at each end of I-beam; one showing flange center and the other indicating truck frame center location. The distance between truck frame centerlines must equal the bridge span.

b. Select and cut out proper template for I-beam size being used. Lay template on beam flange, aligning corresponding centerlines, and center punch holes at both ends of beam. Drill holes using a 21/32 inch diameter drill bit.

2. Mount trolley stops to I-beam web in position shown in table on page 5. Stops may be welded or bolted in place. If bolted, drill holes using 21/32 diameter drill as indicated on trolley stop table. 5/8 inch diameter bolts with self-locking nuts should be used to secure stops.

3. Set I-beam on a level surface with drilled holes facing up.

4. Position truck frames on top of I-beam, one at each end, and install attaching hardware. See Figure 2. Do not completely tighten nuts until trucks are squared with beam.

5. Square truck frames with bridge beam by measuring and comparing the distances (each side of bridge) between outside edges of suspension end plates. Adjust trucks until both dimensions are equal and then tighten all bolts and nuts using the turn-of-nut method. This is done by alternately bringing bolts and nuts to a "snug-tight" condition to insure that mating surfaces are brought into full contact with each other. Then, make a final 1/2 turn on all bolts and nuts.

CAUTION

Do not substitute standard bolts and nuts for the special truck connecting bolts and nuts furnished with kit. Only high-strength bolts (S.A.E., grade 5) and elastic collared self-locking nuts, as furnished, are acceptable for attaching truck frames to bridge beam. High strength bolts are identified on the top of the head by three radial lines, equally spaced at 120 degrees. The bolts must be 3 inches long and have 1-1/2 inches of full working threads.

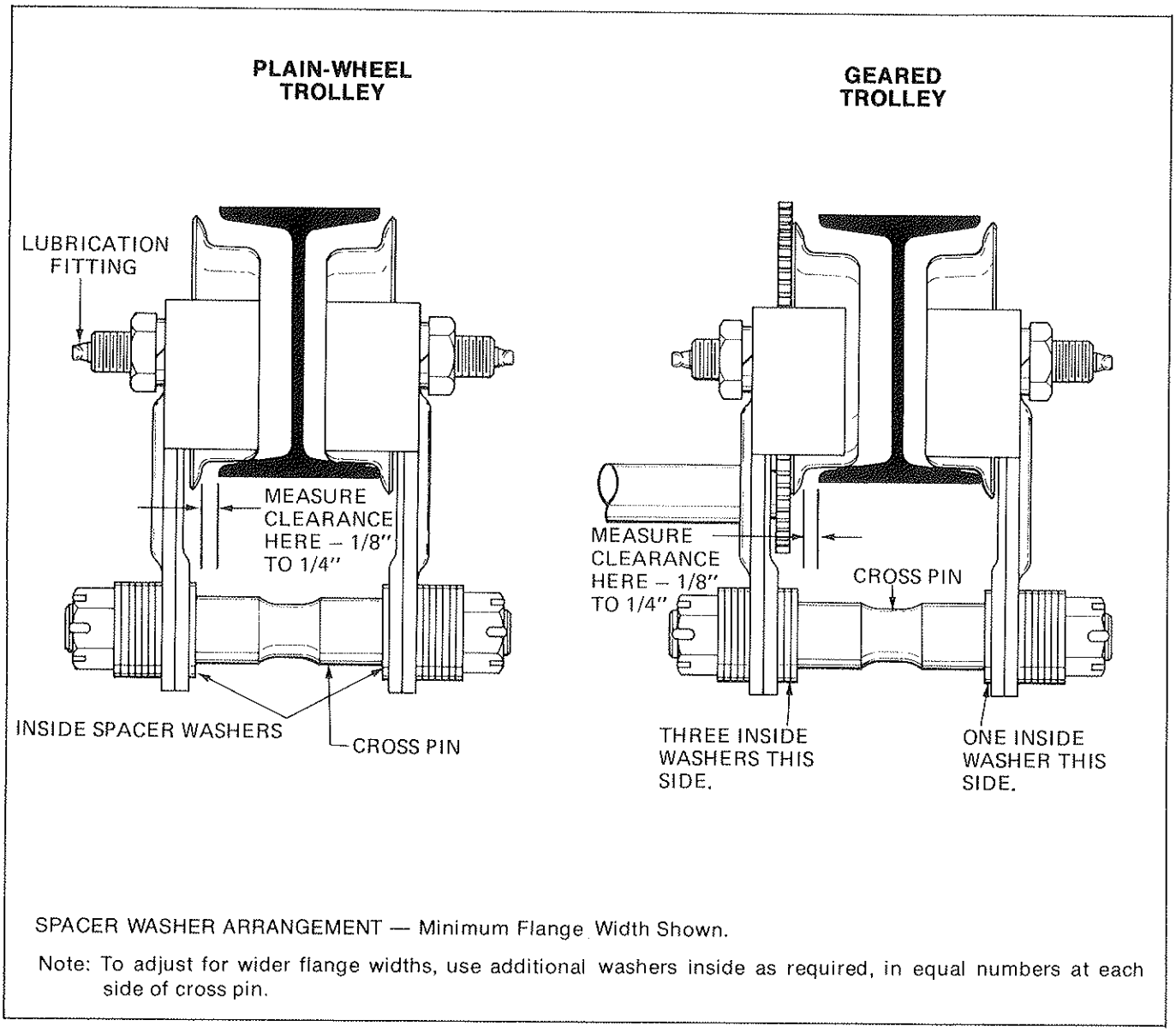
6. Trolleys are not assembled to bridge truck frames until the bridge is blocked up in position under the runway beams on which it is to operate. It is suggested that the trolleys be temporarily assembled on runway beams to determine proper spacer washer arrangement before final assembly on bridge. Refer to "Assembly of Trolleys."

ASSEMBLY OF TROLLEYS

BUDGIT I-beam trolleys can be installed on I-beams with flanges of various widths as shown in chart below. Sufficient spacer washers are furnished with each trolley cross pin for the maximum flange width that the trolleys are designed to fit.

BEAM FLANGE WIDTHS THAT TROLLEYS WILL FIT

Rated Load in Tons	Catalog Number	(*) Minimum I-Beam Height (Inches)	(*) Flange Widths (Inches)	
			Minimum	Maximum
1/4 to	62 and	5	3	5



SPACER WASHER ARRANGEMENT — Minimum Flange Width Shown.

Note: To adjust for wider flange widths, use additional washers inside as required, in equal numbers at each side of cross pin.

FIGURE 3.

INSTALLATION OF BRIDGE AND TROLLEYS

Lift assembled truck frames and bridge beam into position under runway beams and safely support the assembly while I-beam trolleys are being installed. Assemble trolleys, in place, one at a time as follows:

1. Insert trolley cross pin thru hole in truck frame end plate.

2. Place the previously determined number of inside spacer washers on each end of cross pin.

3. Position the trolley side plate assemblies over ends of cross pin, with wheels engaging bottom flange of runway beam, and install remaining spacer washers, and slotted hex nuts.

NOTE: On hand geared bridges the cross shaft must be installed as the geared trolleys are installed. Refer to "Instructions for Assembling Cross Shaft and Hand Chain."

4. Tighten nuts securely on cross pin and align cotter pin slots with cotter pin holes. Insert cotter pins and temporarily secure them. The cotter pins are to be permanently secured after all four trolleys are installed and a load can be applied to crane bridge, paragraph 5 below.

NOTE: Due to variations in the thickness of spacer washers, it may be necessary to omit a washer from one or both outside ends of the cross pins in order to install cotter pins.

WARNING

If cotter pins do not engage slots of nuts after the nuts are firmly tightened against the washers, the nuts may loosen and cause excessive wheel clearance which may allow the trolley to separate from the I-beam and result in injury to operator and others and damages to load and other property.

5. After all four trolleys have been mounted, remove bridge supports and carefully load bridge with maximum load to be handled (not exceeding bridge rated capacity). Then, remove load and recheck all cross pin nuts to make certain they are tight. Cotter pins must now be spread open to permanently secure them.

INSTRUCTIONS FOR ASSEMBLING CROSS SHAFT AND HAND CHAIN — CATALOG 62G AND 63G BRIDGES

CATALOG 62G BRIDGES

RUNWAY BEAM SIZE		DIM.
BEAM HEIGHT AND WEIGHT	FLANGE WIDTH	A
5"-10	3"	10 9/16
6"-12.5	3 3/8"	10 3/4
7"-15.3	3 5/8"	10 7/8
8"-18.4	4"	11 1/16
10"-24.4	4 5/8"	11 3/8
12"-31.8	5"	11 9/16

CATALOG 63G BRIDGES

RUNWAY BEAM SIZE		DIM.
BEAM HEIGHT AND WEIGHT	FLANGE WIDTH	A
6"-12.5	3 3/8"	10 15/16
7"-15.3	3 5/8"	11 1/16
8"-18.4	4"	11 1/4
10"-24.4	4 5/8"	11 9/16
12"-31.8	5"	11 3/4
15"-42.9	5 1/2"	12

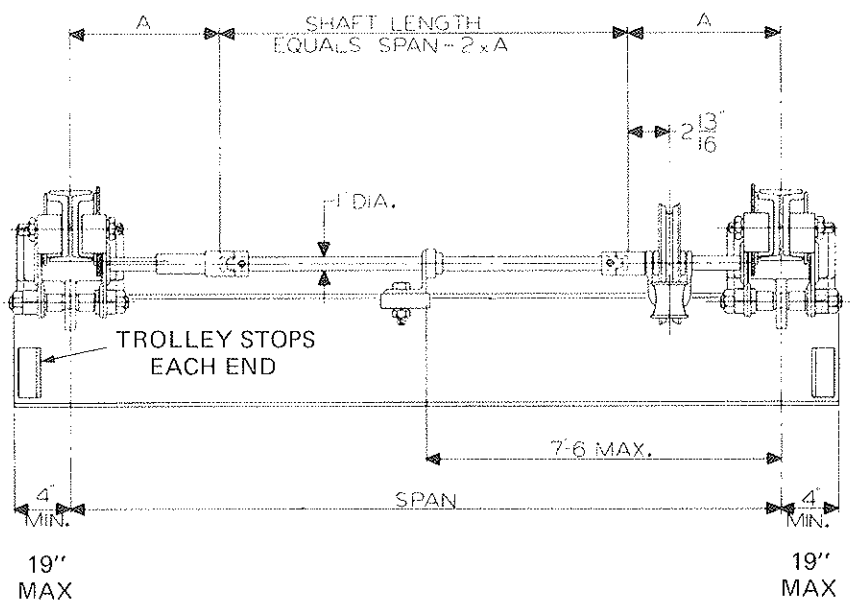


FIGURE 4.

On Catalog 62G and 63G hand geared bridges, the cross shaft must be installed while bridge and trolleys are being mounted on runway beams.

1. The hand wheel, chain guide and one drive coupling are shipped attached to one geared trolley side and may be located as desired on either end of bridge. The other geared trolley side has only a drive coupling attached to pinion shaft and should be located on opposite end of bridge.

2. Install two beam clamps on cross shaft bracket and attach bracket to top of bridge I-beam. On bridges with spans to 15 feet, the bracket should be located at center of span. On longer spans additional brackets (Catalog 905451), must be installed as required so that spacing between cross shaft bearings does not exceed 7 ft.-6 inches. Tighten clamp bolts and nuts.

3. Install bearing assemblies (number depending upon span) on cross shaft and attach a coupling drive lug to each end of shaft. Do not tighten set screws, until cross shaft is installed (paragraph 4 below).

4. Install cross shaft between geared trolley sides, engaging couplings on pinion shafts. Tighten coupling and drive lug set screws.

5. Slide bearing(s) into position against cross shaft support bracket and secure each bearing with two bolts, washers and nuts. Tighten bearing set screws in extended part of inner race.

6. Determine length of operating hand chain (chain should hang about 2 ft.-6 inches above floor), then shorten and make it endless by installing and closing open link furnished with chain.

PAINTING

After assembly, all plain steel surfaces should be painted. Thoroughly clean surfaces of oily spots and rust using a suitable solvent. It is recommended that a national brand zinc-cromate primer be applied before a finish coat of high gloss enamel especially suited for steel surfaces.

MARKING

Law requires that the capacity of the bridge be shown on both sides of crane, legible from the floor. Normal practice for marking is to use capacity in tons, for example: 1 TON, 2 TON, 3 TON. Stencil forms are readily available that may be used with brush-on or pressurized spray-can paint.

NOTICE: The crane builder and user are responsible for marking crane and also to check for compliance with all local, state and national codes.

WARNING

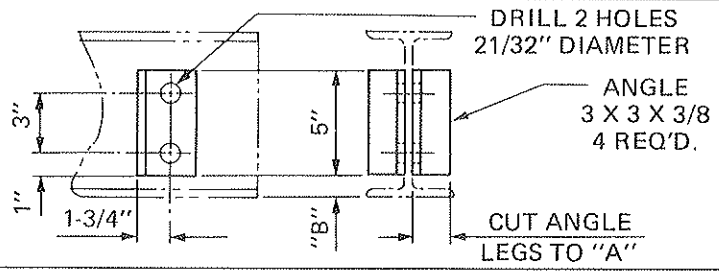
These crane bridges are not designed nor intended to be used for support or transport of people or for transporting loads over people.

If crane bridge is mounted on an open-end runway rail, then end stops must be installed to prevent crane bridge from running off the end of the runway rail resulting in injury to the operator and others and damages to load and other property. End stops per trolley stop table on page 5 may be used and installed per instructions on page 2.

Refer to hoist and trolley instruction manuals for safety warnings on hoist and trolleys.

TROLLEY STOP TABLE

Size of Beam	Dimension "A"	Dimension "B"
7" x 15.3	1-5/8"	1"
8" x 18.4	1-3/4"	1"
10" x 25.4	2-1/8"	1-1/4"
12" x 31.8	2-1/4"	1-1/4"
15" x 42.9	2-1/2"	1-1/2"
18" x 54.7	2-3/4"	1-1/2"



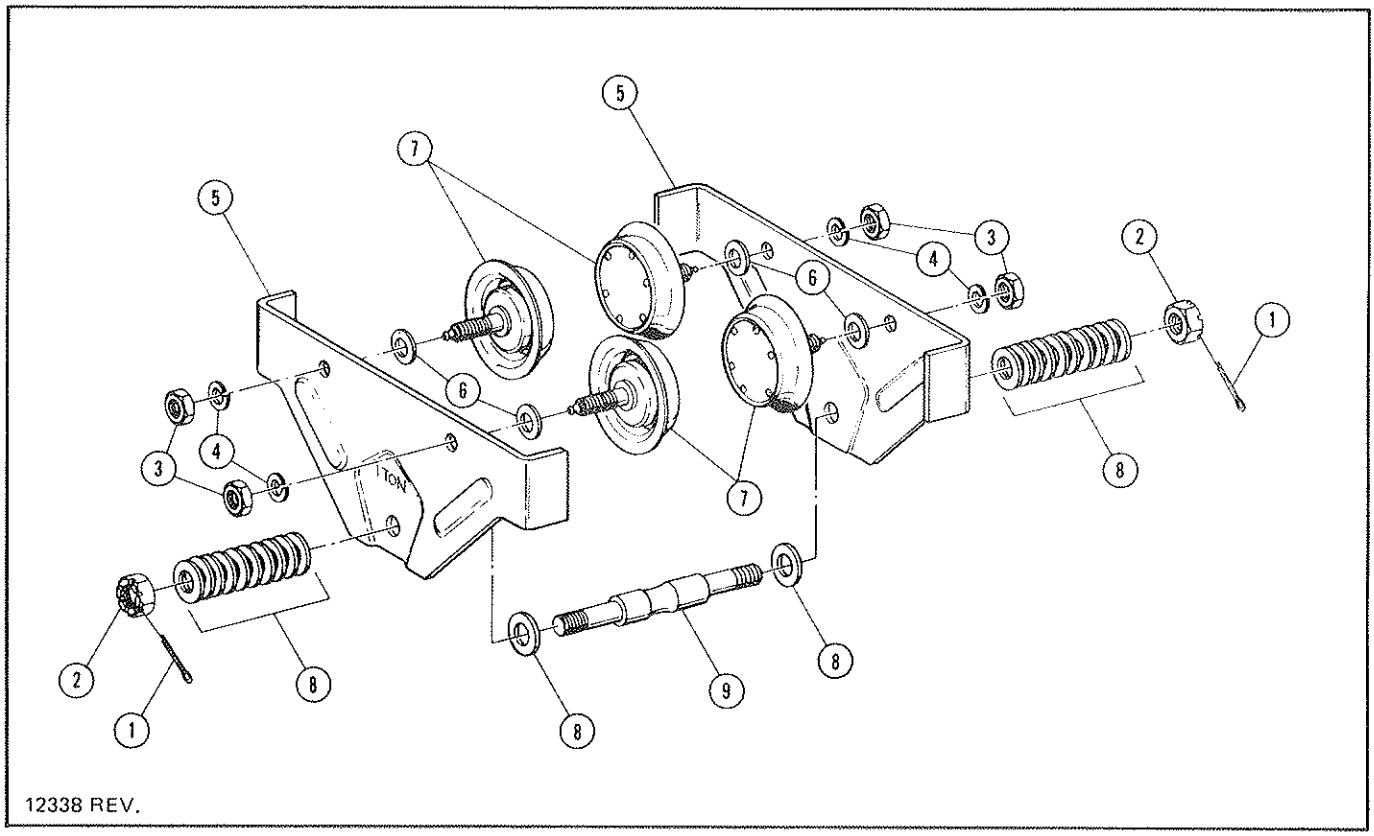


FIGURE 5. TRAILER (PLAIN) TROLLEY PARTS

REF. NO.	PART DESCRIPTION	(*)QTY. REQ'D. PER TROLLEY	KEY NUMBERS	
			CATALOG 62 & 62G	CATALOG 63 & 63G
1	Cotter Pin	2	BT-1513	BT-1526
2	Slotted Hex Nut	2	BT-1514	BT-1527
3	Hex Jam Nut	4	BT-1515	BT-1515
4	Lockwasher	4	BT-1516	BT-1516
5	Side Plate	2	BT-1517	BT-1528
6	Spacer Washer	4	BT-1519	BT-1519
7	Wheel & Axle Assembly	4	BT-1520	BT-1530
8	Spacer Washer	**20	BT-1522	BT-1532
9	Cross Pin—8-1/4" lg. for 3" to 5" flange	1	BT-1523	—
	—8-3/4" lg. for 3-3/8" to 6" flange	1	—	BT-1533

NOTE: (*) Quantities given are for each trolley. Four (4) Plain-wheel trolleys are used on Catalog 62 and 63 bridges. Two (2) geared-wheel trolleys and two (2) plain-wheel trolleys are used on Catalog 62G and 63G bridges.
(**) Quantity shown is for Catalog 62 and 62G. Catalog 63 and 63G require 26 spacer washers per trolley.

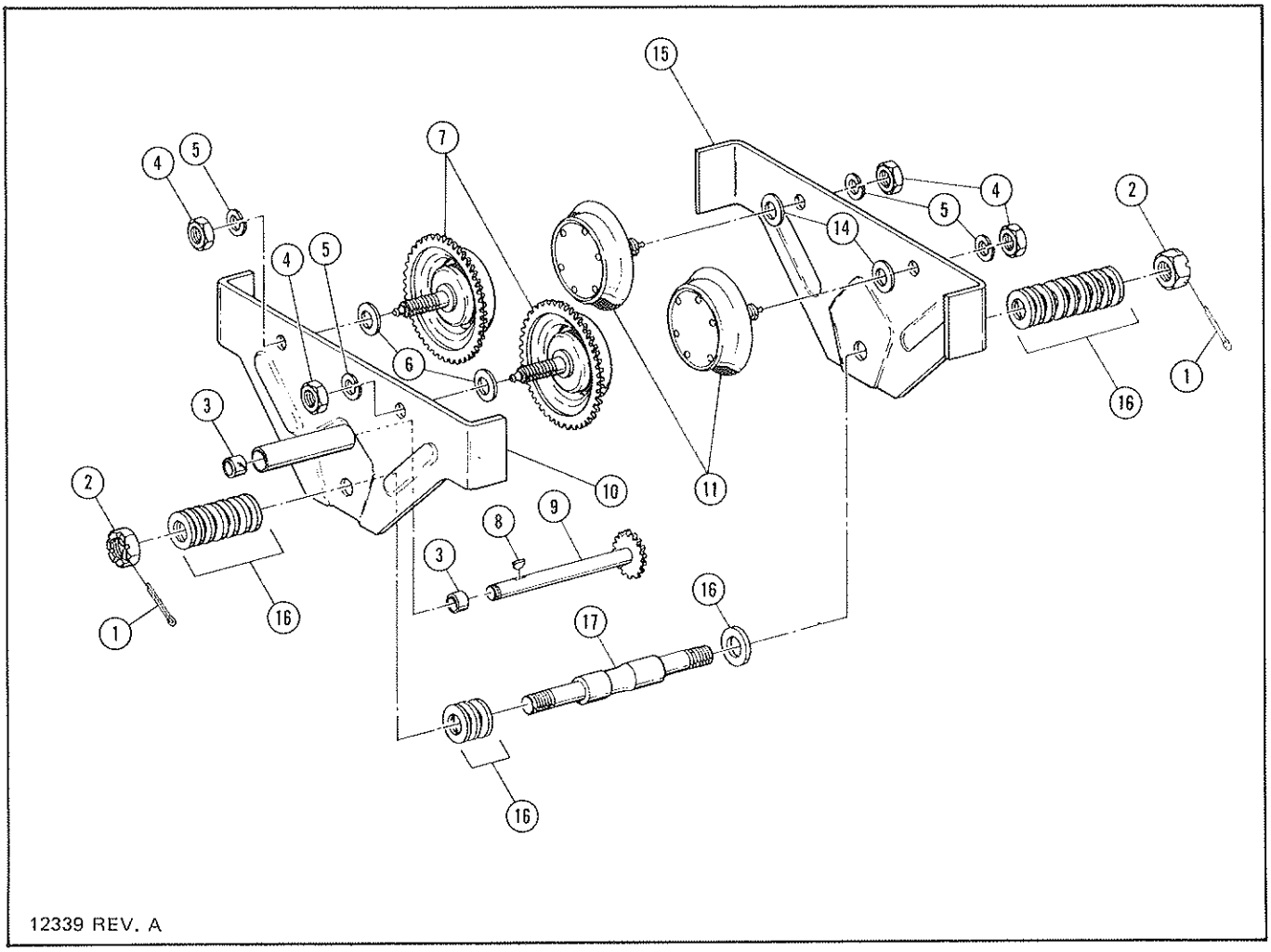


FIGURE 6. DRIVE (GEARED) TROLLEY PARTS

REF. NO.	PART DESCRIPTION	(*)QTY. REQ'D. PER TROLLEY	KEY NUMBERS	
			CATALOG 62G	CATALOG 63G
1	Cotter Pin	2	BT-1513	BT-1526
2	Slotted Hex Nut	2	BT-1514	BT-1527
3	Bushing	2	BT-1543	BT-1543
4	Hex Jam Nut	4	BT-1515	BT-1515
5	Lock Washer	4	BT-1516	BT-1516
6	Spacer Washer	2	BT-1545	BT-1545
7	Geared Wheel & Axle Assembly	2	BT-1546	BT-1559
8	Woodruff Key (No. 6)	1	BT-1548	BT-1548
9	Pinion & Shaft Assembly	1	BT-1549	BT-1549
10	Side Plate Assembly — Geared Side	1	BT-1550	BT-1561
11	Plain Wheel & Axle Assembly	2	BT-1520	BT-1530
14	Spacer Washer	2	BT-1519	BT-1519
15	Side Plate Assembly — Plain Side	1	BT-1557	BT-1563
16	Spacer Washer	**20	BT-1522	BT-1532
17	Cross Pin—8-1/4" lg. for 3" to 5" flange	1	BT-1523	—
	—8-3/4" lg. for 3-3/8" to 6" flange	1	—	BT-1533

NOTE (*) Quantities given are for each trolley. Catalog 62G and 63G bridges have two (2) geared-wheel trolleys and two (2) plain-wheel trolleys.

(**) Quantity shown is for Catalog 62G. Catalog 63G requires 26 spacer washers per trolley.

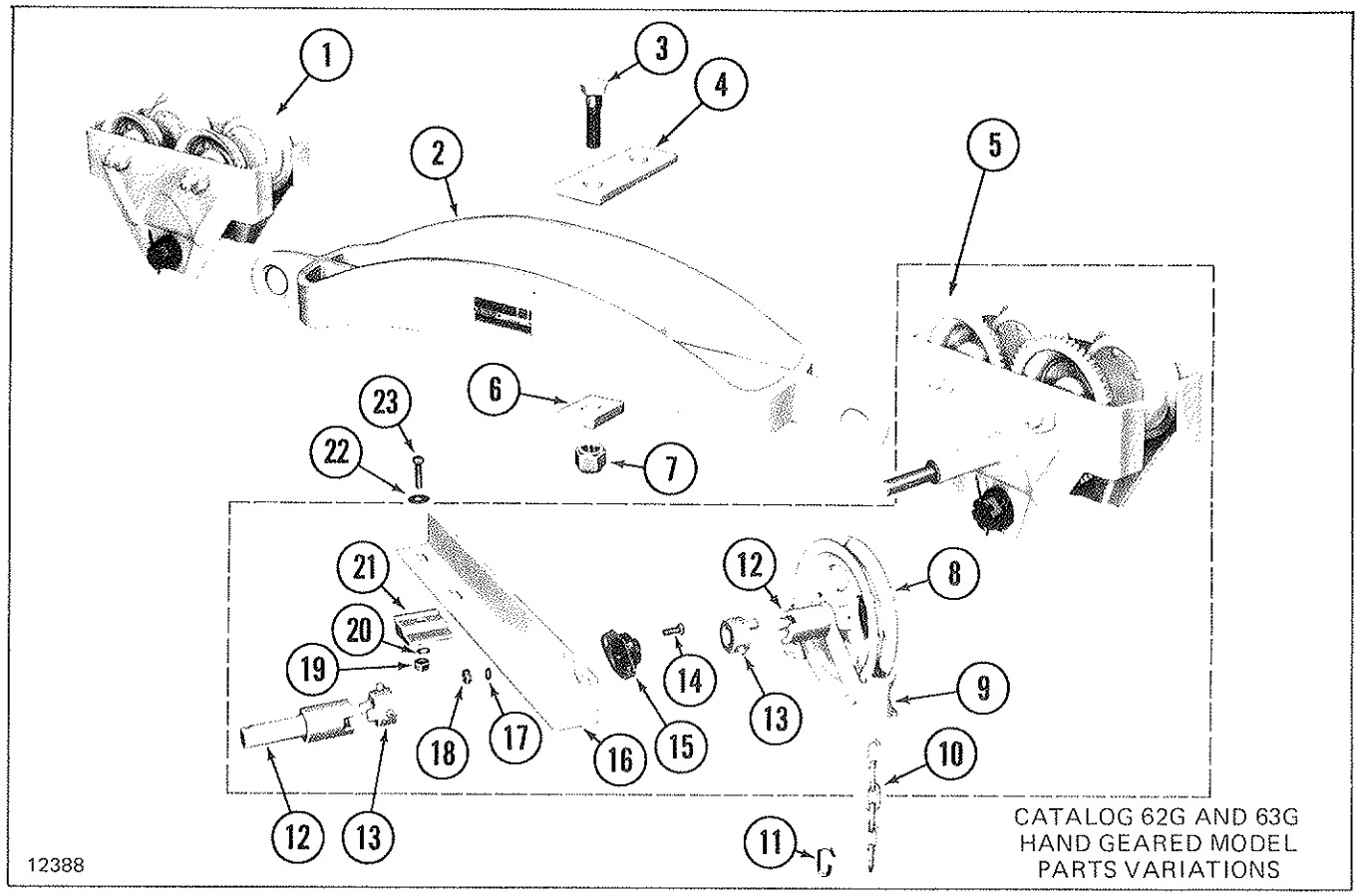


FIGURE 7. TRUCK FRAME AND CHAIN WHEEL PARTS

Ref. No.	Part Number	Description	Quantities Required (per bridge)	
			Catalog 62 & 63	Catalog 62G & 63G
1	See Fig. 5	Trolley Assembly — Plain Wheel	4	2
2	CA-432	Truck Frame	2	2
3	CA-433	Hex Head Bolt — High strength	8	8
4	CA-434	Spacer Plate	4	4
5	See Fig. 6	Trolley Assembly — Geared Wheel	—	2
6	CA-435	Bevel Washer	8	8
7	CA-436	Self-locking Nut — Elastic Collared	8	8
8	CA-411	Hand Chain Wheel	—	1
	CA-412	Hex Socket Set Screw (for chain wheel)	—	1
9	CA-413	Chain Wheel Guide	—	1
10	CA-437	Hand Chain — Natural Finish (36 ft.)	—	1
11	CA-438	Open Connecting Link	—	1
12	CA-416	Drive Coupling	—	2
	CA-418	Hex Socket Set Screw (for drive coupling)	—	2
13	CA-419	Drive Lug	—	2
	CA-420	Hex Socket Set Screw (for drive lug)	—	4
14	CA-430	Hex Head Bolt (for Bearing)	—	2
15	CA-421	Cross Shaft Bearing Assembly	—	1
16	CA-439	Cross Shaft Support (For 62G)	—	1
	CA-440	Cross Shaft Support (For 63G)	—	1
17	CA-423	Lockwasher (for bearing bolt)	—	2
18	CA-424	Hex Nut (for bearing bolt)	—	2
19	CA-425	Hex Nut (for clamp bolt)	—	2
20	CA-426	Lockwasher (for clamp bolt)	—	2
21	CA-427	Beam Clamp	—	2
22	CA-428	Flat Washer (for clamp bolt)	—	2
23	CA-429	Hex Head Bolt (for beam clamp)	—	2

NOTICE: When ordering replacement parts, always give Model Number and Catalog Number of crane bridge. Order parts from an Authorized BUDGIT Repair Station or from a BUDGIT Distributor. Do not order parts from the factory.

WARRANTY

WARRANTY AND LIMITATION OF REMEDY AND LIABILITY

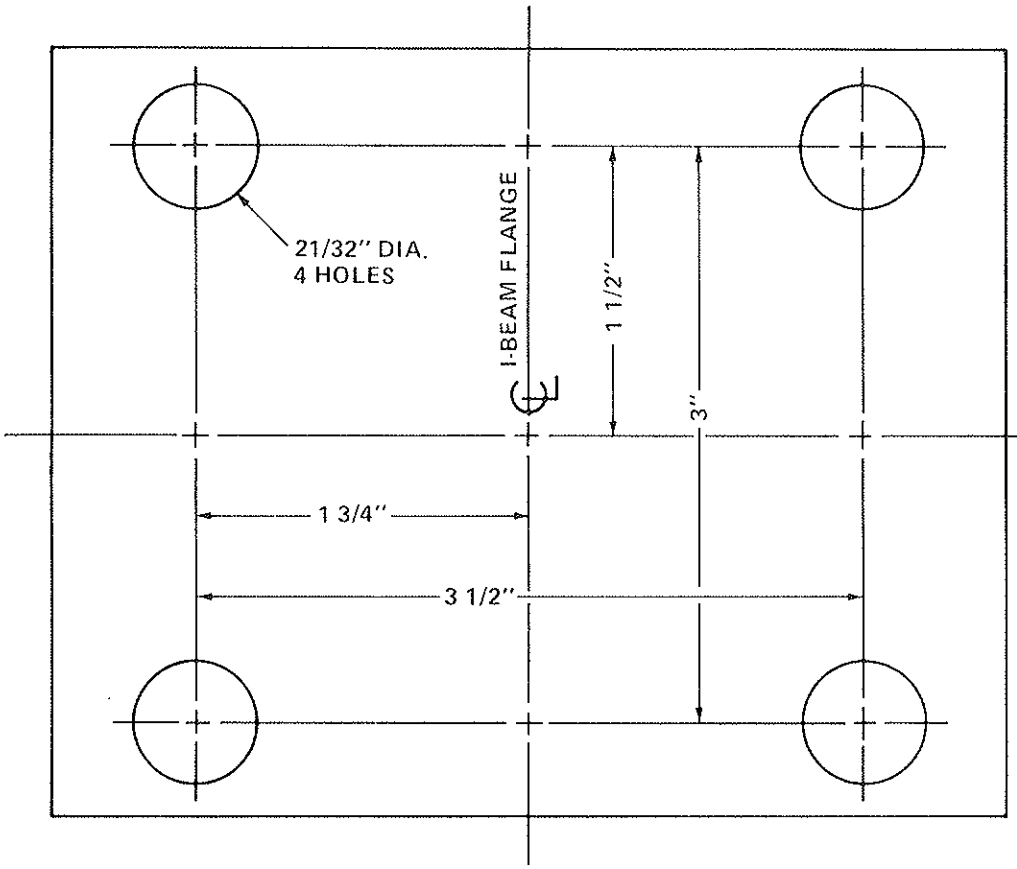
A. Seller warrants that its products and parts, when shipped, and its work (including installation, construction and start-up), when performed, will meet applicable specifications, will be of good quality and will be free from defects in material and workmanship. All claims for defective products or parts under this warranty must be made in writing immediately upon discovery and, in any event, within one (1) year from shipment of the applicable item unless Seller specifically assumes installation, construction or start-up responsibility. All claims for defective products or parts when Seller specifically assumes installation, construction or start-up responsibility, and all claims for defective work must be made in writing immediately upon discovery and, in any event, within one (1) year from completion of the applicable work by Seller, provided; however, all claims for defective products and parts must be made in writing no later than eighteen (18) months after shipment. Defective items must be held for Seller's inspection and returned to the original f.o.b. point upon request. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

B. Upon Buyer's submission of a claim as provided above and its substantiation, Seller shall at its option either (i) repair or replace its product, part or work at either the original f.o.b. point of delivery or at Seller's authorized service station nearest Buyer or (ii) refund an equitable portion of the purchase price.

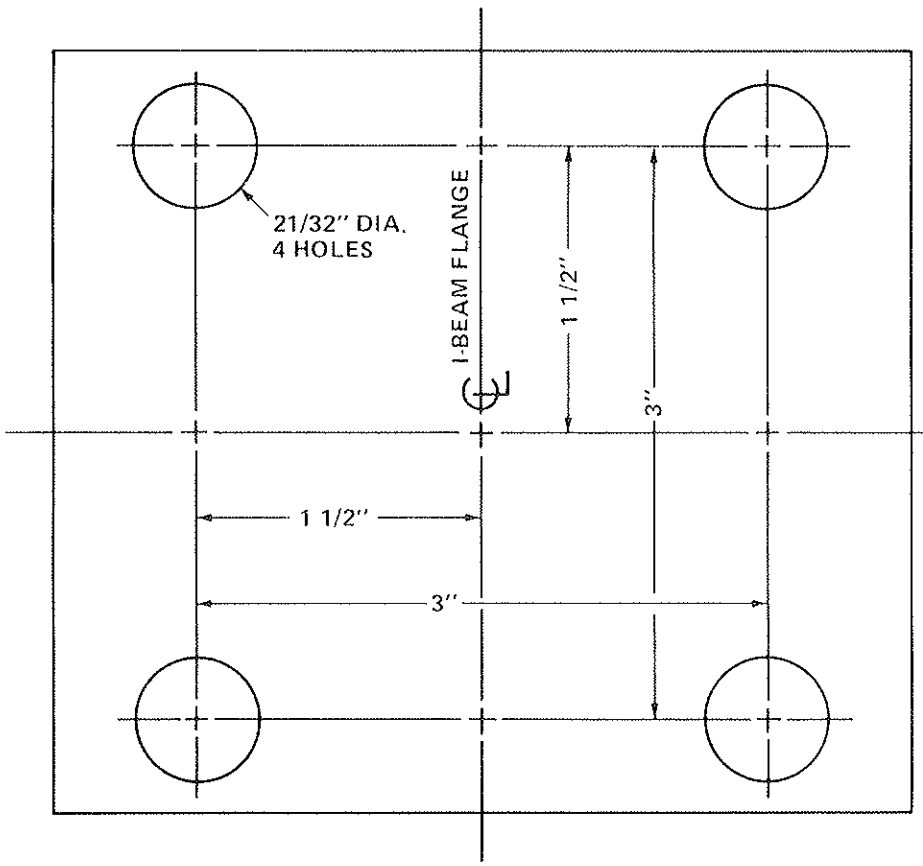
C. This warranty is contingent upon Buyer's proper maintenance and care of Seller's products, and does not extend to fair wear and tear. Seller reserves the right to void warranty in event of Buyer's use of inappropriate materials in the course of repair or maintenance, or if Seller's products have been dismantled prior to submission to Seller for warranty inspection.

D. The foregoing is Seller's only obligation and Buyer's exclusive remedy for breach of warranty, and is Buyer's exclusive remedy hereunder by way of breach of contract, tort, strict liability or otherwise. In no event shall Buyer be entitled to or Seller liable for incidental or consequential damages. Any action for breach of this agreement must be commenced within one (1) year after the cause of action has accrued.

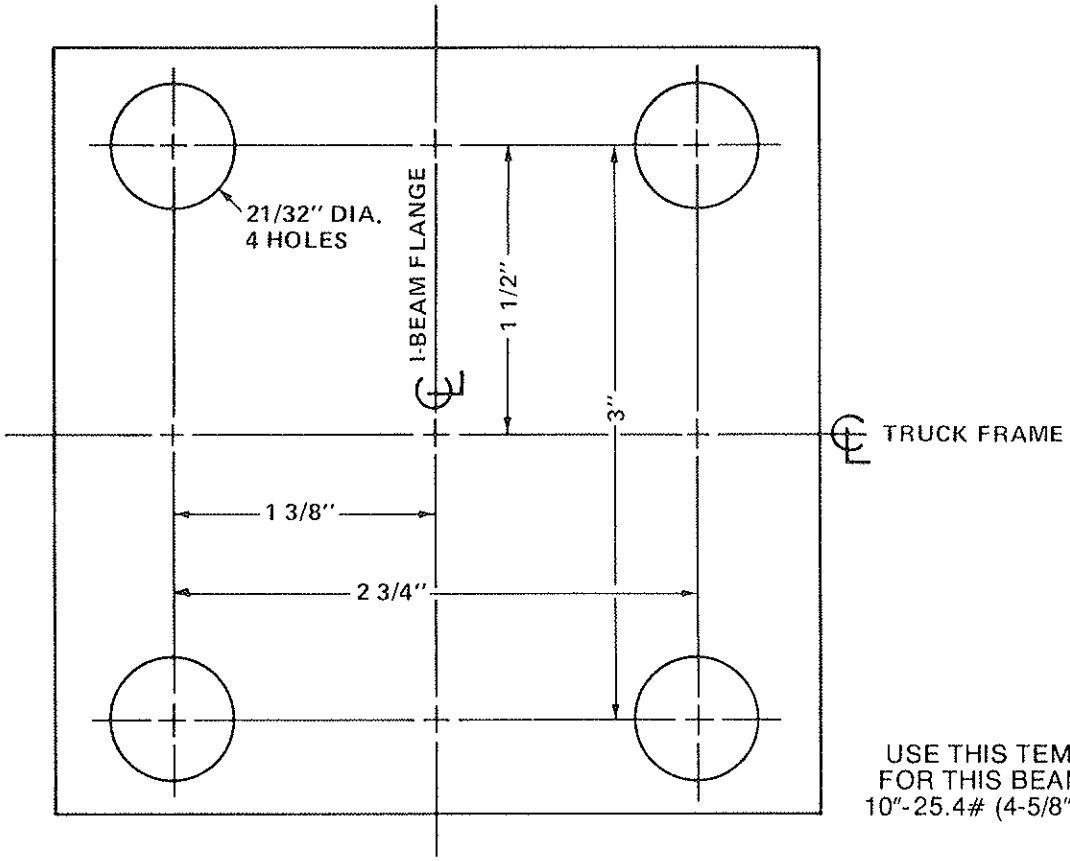
I-BEAM DRILLING TEMPLATES FOR BUDGIT®
UNDERHUNG BRIDGE CRANE TRUCK KITS
CATALOG NUMBERS 62, 62G, 63 and 63G



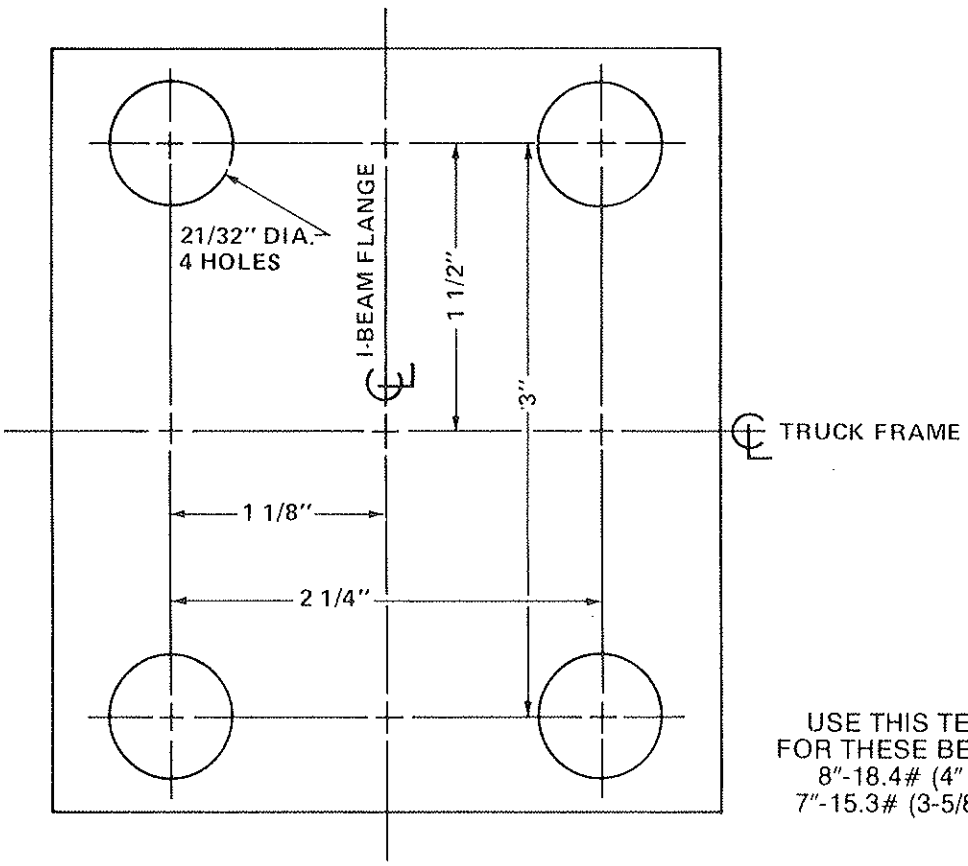
USE THIS TEMPLATE
FOR THESE BEAM SIZES:
15"-42.9# (5 1/2" Flange)
18"-54.7# (6" Flange)



USE THIS TEMPLATE
FOR THIS BEAM SIZE:
12"-31.8# (5" Flange)
12"-40.8# (5-1/4" Flange)



USE THIS TEMPLATE
FOR THIS BEAM SIZE:
10"-25.4# (4-5/8" Flange)



USE THIS TEMPLATE
FOR THESE BEAM SIZES:
8"-18.4# (4" Flange)
7"-15.3# (3-5/8" Flange)