

OPERATION, SERVICE AND PARTS MANUAL



BUDGIT®

TRACK CLAMP ASSEMBLY

Capacity
1/4 & 1/2 Ton
1, 1-1/2 & 2 Ton
3 & 4 Ton
8 Ton

Model No.
515474-1
515471-1
515472-1
506659-1

LIFTTECH

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

BUDGIT

MARCH, 1990

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PART NO. 113534-19

FOREWORD

This manual contains important information to help you operate, maintain and service your BUDGIT Track Clamp Assembly. We recommend that you study its contents thoroughly before putting Track Clamp into use. Then thru proper installation and application of operating and recommended maintenance suggestions, you will obtain maximum service from your Track Clamp.

It will likely be a long time before the parts information in Section V is needed, therefore, we suggest that this manual be carefully filed for future reference.

When ordering replacement parts it will be necessary that you include, with your parts order, the Track Clamp Model Number which will be found on nameplate attached to clamp.

Complete inspection, maintenance and overhaul service is available for BUDGIT Track Clamp Assemblies at any of the Authorized BUDGIT Repair Stations

Information given in this book is subject to change without notice.

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SECTION I - GENERAL INFORMATION

1-1. PURPOSE.

1-2. This manual provides installation, operation and maintenance instructions and a parts list for BUDGIT Track Clamps.

1-3. The Track Clamp is a device for clamping (or locking) a trolley hoist or trolley on its runway I-beam. It attaches to side plates of trolley hoist or trolley and will securely lock trolley or hoist with full rated suspended load at any desired location on the runway I-beam.

1-4. DESCRIPTION.

1-5. BUDGIT Track Clamps are adjustable to fit I-beams ranging in size from 8" x 18.4# (4" flange) to 20" x 75# (6-3/8" flange). Adjustment is accomplished thru brake shoe adjusting studs located in each brake arm.

1-6. Track Clamps are connected to hoist or trolley by a connecting tee which is coupled by connecting pin to an adaptor cross bar on hoist or trolley.

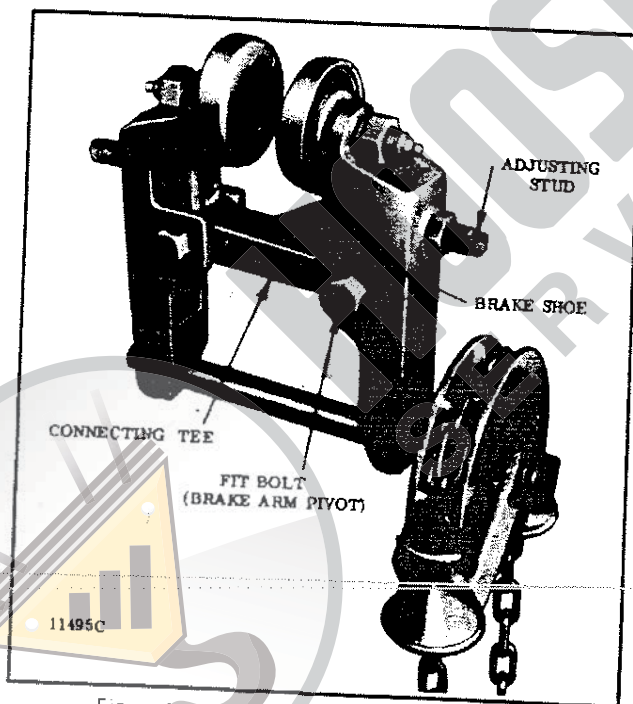


Figure 1-1. BUDGIT Track Clamp Assembly

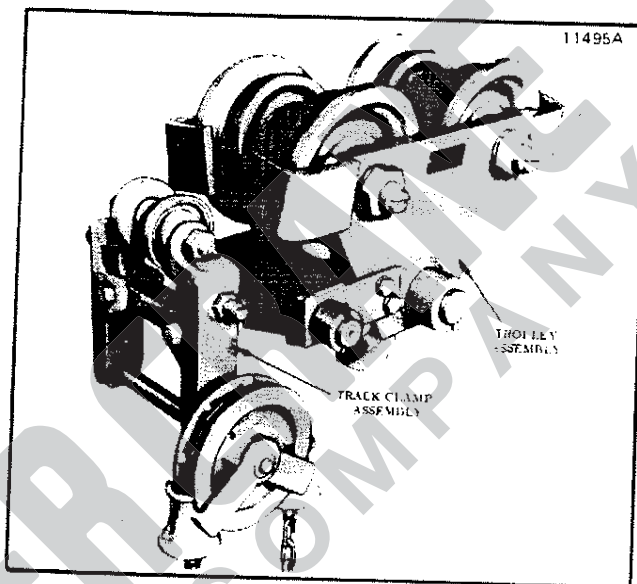


Figure 1-2. BUDGIT Track Clamp Shown Coupled To HI-CAP Trolley

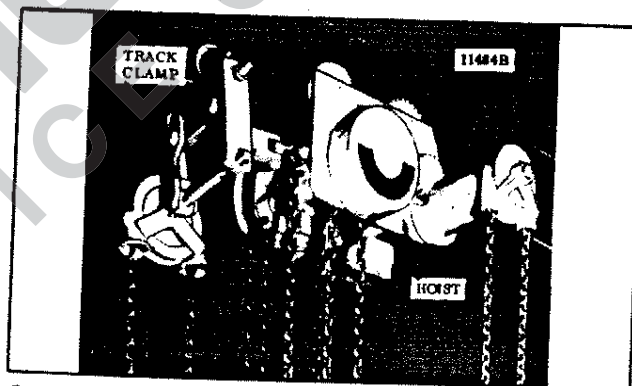


Figure 1-3. BUDGIT Track Clamp Shown Mounted On Runway Beam and Coupled to Trolley Hoist

1-7. The clamp is normally unlocked leaving the hoist or trolley free to travel on runway I-beam. The clamp must be manually locked to hold trolley, hoist and load in a fixed location on I-beam. Hardened, serrated brake shoes, located on the brake arms are positioned to engage and clamp edges of bottom beam flange, locking beam between brake shoes. Operation of hand wheel rotates a shaft with right and left hand threads. Swivel nuts at bottom of brake arms travel in and out on these threads as the shaft rotates causing brake shoes to either engage or disengage I-beam flange.

SECTION II - OPERATION

2-1. INSTALLATION.

2-2. If Track Clamp is attached to hoist or trolley, separate by removing cotter pin and connecting pin from connecting tee (figure 2-1).

2-3. Mount clamp on runway beam by either of the

following methods. Be certain to position clamp with connecting tee facing in proper direction to allow attaching it to trolley or hoist.

a. If end of runway beam is open, slide track clamp onto bottom flange of beam.

WARNING

If trolley is mounted on an open-end beam, end stops must be installed to prevent trolley from running off the end of the beam resulting in injury to operator and others and damages to load and other property.

b. If trolley cannot be mounted over end of beam, remove one hex head fit bolt (brake arm pivot) joining one brake arm assembly to connecting tee, hang clamp on bottom beam flange, re-engage brake arm with connecting tee and reinstall fit bolt. Refer to figure 1-1.

2-4. Attach clamp connecting tee to Track Clamp adaptor cross bar on trolley or hoist and secure with connecting pin and cotter pin.

2-5. Adjust Track Clamp brake shoes to properly engage edges of bottom beam flange. Adjustment is made by loosening lock nuts and turning slotted brake shoe studs "in" or "out" as required to bring shoes into contact with flange edges.

NOTE: Runway i-beams must be straight and free of rust or scale. All welded joints must be ground smooth and flat.

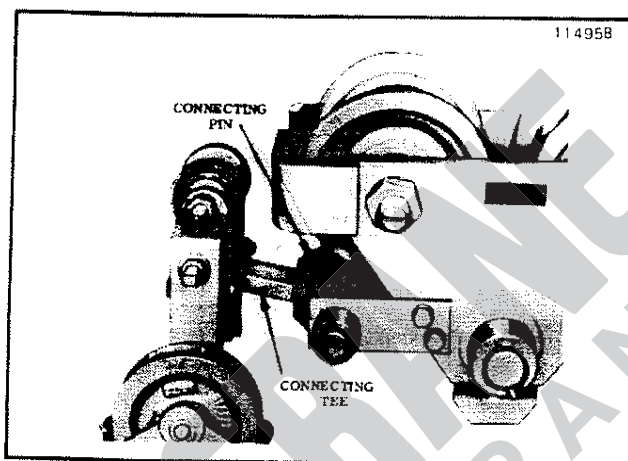


Figure 2-1. Connecting Track Clamp to HI-CAP Trolley.

2-6. OPERATION.

2-7. BUDGIT Track Clamps are in a normally unlocked position providing free travel of trolley or hoist. To lock the clamp, pull right hand chain (facing hand wheel side) down quickly. This turns hand wheel clockwise causing brake shoes to contact edges of bottom beam flange, locking trolley or hoist to runway beam. To unlock clamp, pull down on left hand chain turning chain wheel in a counter-clockwise direction.

SECTION III - TROUBLESHOOTING

3-1. **TROUBLESHOOTING.** Common difficulties that are likely to occur in Track Clamp operation are covered in this section.

3-2. **TROUBLESHOOTING TABLE.** The following table

(Figure 3-1) is arranged in three columns, with trouble listed first, followed by the possible cause and the remedy. In the remedy column references are made to paragraphs which contain instructions required to make the repair.


1. TROUBLE	POSSIBLE CAUSE	REMEDY
 <p>1. Clamp will not hold on beam.</p>	a. Brake shoes serrations worn or damaged.	a. Replace shoes. Par. 4-7.
	b. Brake shoes improperly adjusted.	b. Adjust shoes. Par. 2-5.
	c. Brake shoes do not engage edges of beam flange.	c. Inspect threads on chain wheel shaft for damage. Repair or replace shaft. Par. 4-9.
<p>2. Hand chain wheel turns hard or will not turn.</p>	a. Bent chain wheel shaft.	a. Replace shaft.
	b. Damaged chain wheel shaft threads.	b. Replace shaft.

Figure 3-1. Troubleshooting Table

SECTION IV - MAINTENANCE

4-1. GENERAL.

4-2. The following maintenance procedures cover disassembly, inspection, lubrication and assembly of the BUDGIT Track Clamp Assembly. No special tools are required for maintenance.

4-3. REMOVE TRACK CLAMP FROM RUNWAY.

a. Remove cotter pin and connecting pin (Figure 2-1) from connecting tee and disconnect clamp from trolley or hoist.

b. Remove self-locking nut and hex head fit bolt (brake arm pivot) joining one brake arm to connecting tee and lift clamp assembly from beam. Reinstall fit bolt and nut in brake arm so it does not become lost.

4-4. DISASSEMBLY.

4-5. REMOVE HAND CHAIN, WHEEL AND GUIDE.

a. Remove external retaining ring from end of chain wheel shaft and lift off outer spacer washer.

b. Pull chain wheel with guide and hand chain from shaft and separate parts. The hand chain is equipped with a split connecting link that can be opened for removal of chain from guide.

c. Remove Woodruff key and inner spacer washer from chain wheel shaft.

4-6. **REMOVE CONNECTING TEE.** Remove self-locking nut and hex-head fit bolt (brake arm pivot) from each brake arm and separate connecting tee from brake arms.

4-7. REMOVE BRAKE SHOES.

a. Remove hex jam nuts from brake shoe adjusting studs and unscrew studs and shoes from brake arms.

b. Drive out spring pins using a drift punch and remove shoes from adjusting studs.

NOTE: Brake shoes should not be removed from adjusting studs unless replacement is necessary.

4-8. **REMOVE WHEEL ASSEMBLIES.** Remove hex nuts and lockwashers from threaded wheel shafts and pull wheel assemblies from brake arms. Lift spacer washers from wheel shafts.

4-9. **REMOVE HAND WHEEL SHAFT.** Unscrew shaft from both brake arms. The swivel nuts at bottom ends of brake arms are permanently assembled and should not be removed unless inspection indicates replacement is necessary. If threaded holes in swivel nuts show excessive wear or damage, the nuts can be removed from the arms by drilling away welds on ends of swivel pins and driving them out.

(*) National Lubricating Grease Institute

4-10. INSPECTION.

a. Clean all parts in an approved cleaning solvent (PS-66 1 b, type 1) and dry thoroughly.

b. Inspect all parts for wear, corrosion or damage.

c. Inspect serrated faces of brake shoes for excessive wear.

d. Inspect Track Clamp wheels for freeness of operation.

e. Inspect threaded holes in brake arms and threads on shafts for signs of wear or damage.

4-11. **REPAIR.** Repair of Track Clamps consists of welding a damaged brake arm, connecting tee, or installing replacement threaded swivel nuts at bottom ends of brake arms. The only other repair will be the replacement of damaged or worn parts.

4-12. LUBRICATION.

a. Lubricate all moving parts with N.L.G.I. (*) grease #2 E.P.

b. Apply grease to Track Clamp wheels thru pressure fittings in ends of wheel shafts.

c. Lubricate during assembly. Lubricate once each year or every 200 hours of operation.

4-13. ASSEMBLY.

4-14. **GENERAL.** The following paragraphs give detail procedures for assembly of the Track Clamp. Refer to figure 5-1 for identification of parts.

4-15. **INSTALL HAND WHEEL SHAFT.** Position brake arms on ends of hand wheel shaft and screw shaft into swivel nuts on brake arm ends.

4-16. INSTALL BRAKE SHOES.

a. If brake shoes were removed from adjusting studs, assemble shoes over ends of studs and drive spring pins into place to secure shoes.

b. Insert brake shoe adjusting studs into threaded holes in brake arms and screw into place with a screw driver. Serrations on shoes should be in a vertical position.

c. Install hex jam nuts on ends of adjusting studs. Nuts need not be tightened until brake shoes are adjusted.

4-17. INSTALL WHEEL ASSEMBLIES.

a. Install spacer washers on threaded shafts of wheel assemblies.

b. Insert threaded shafts into holes at top of brake arms and secure with lockwashers and hex nuts.

4-18. **INSTALL CONNECTING TEE.** Position connecting tee between brake arms and install hex head fit bolts and self-locking nuts.

4-19. INSTALL HAND CHAIN, WHEEL AND GUIDE.

a. Install inner spacer washer over end of chain wheel shaft and insert Woodruff key in key slot on shaft.

b. Position hand chain wheel in chain guide and install wheel and guide over end of shaft. Place outer spacer washer on shaft and install external retaining ring in groove on end of shaft.

c. Install hand chain by dropping ends of chain thru bell shaped openings in guide and over hand chain wheel. Connect ends of chain using split type connecting link. Be certain there is no twist in chain.

d. Refer to paragraph 2-1 to install and adjust Track Clamp on runway beam.

4-20. **TEST TRACK CLAMP.** Check operation of Track Clamp on runway beam. Clamp should move without binding or impedance of movement. Hand chain wheel should rotate freely. With clamp in "locked" position brake shoes should contact edges of bottom flange on beam and hold and prevent trolley or hoist with rated load from moving on beam.

SECTION V - PARTS LIST

5-1. **INTRODUCTION.** The following pages contain an illustrated list of parts for the BUDGIT Track Clamp. To find required parts refer to figure 5-1.

5-2. **PARTS LIST.** The parts list consists of seven columns. The first column, REF. NO., is the index of the part in the exploded view illustration. The second, third, fourth

and fifth columns, PART NO., list part numbers by Track Clamp Model Number for ordering purposes. The sixth column, DESCRIPTION, names and gives a brief description to help identify the part. The last column, QTY. REQ'D., lists the total number of times the item is used in the assembly or the number of times the items are used in the complete Track Clamp.

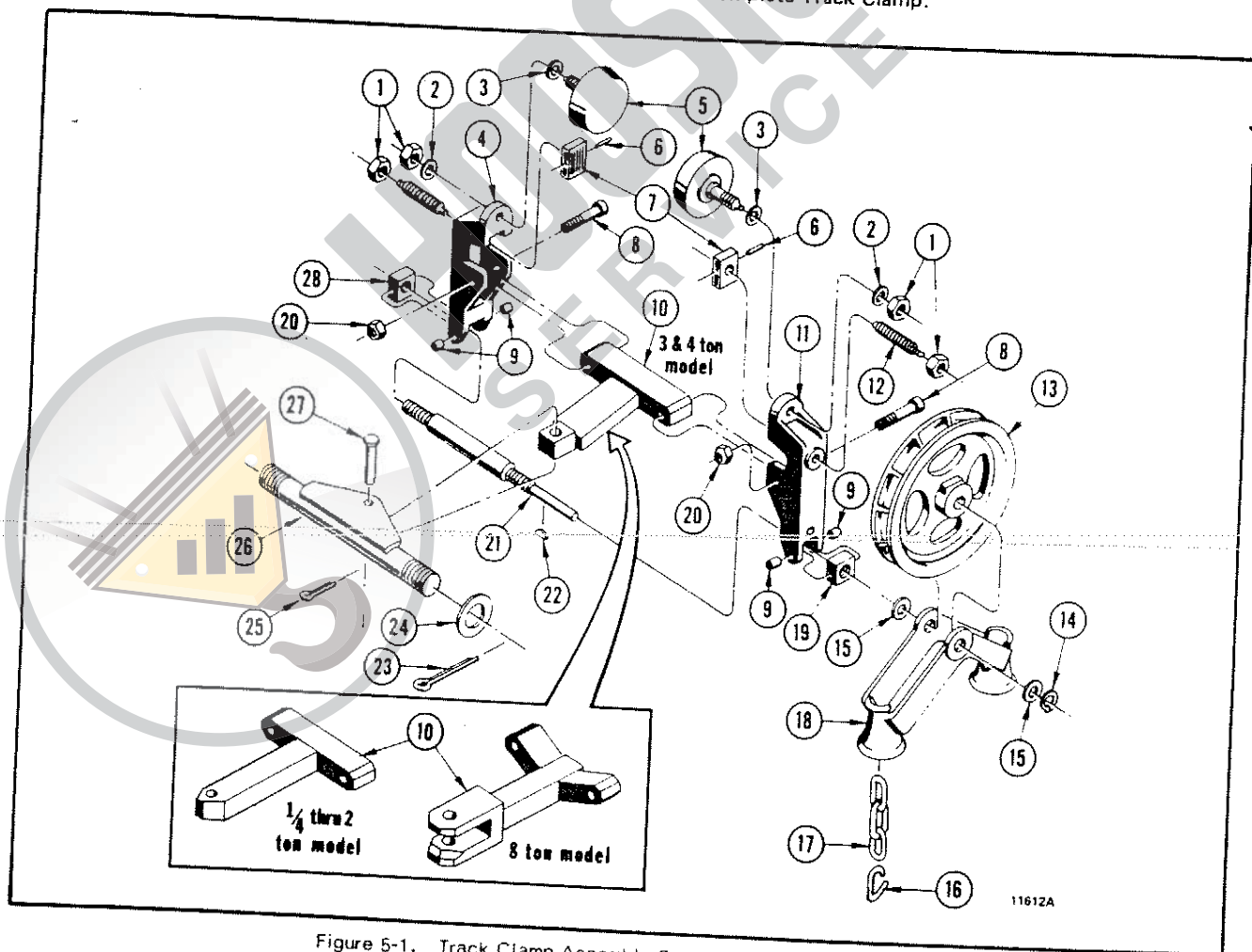


Figure 5-1. Track Clamp Assembly Parts - Exploded View

Figure 5-1. Track Clamp Assembly Parts - Continued

Ref. No.	1/4 & 1/2 Ton Model 515474-1	1, 1-1/2 & 2 Ton Model 515471-1	3 & 4 Ton Model 515472-1	8 Ton Model 506659-1	Description	Qty. Req.
1	BTC-100	BTC-100	BTC-100	BTC-100	Nut—Jam, Hex	4
2	BTC-101	BTC-101	BTC-101	BTC-101	Lockwasher—Spring Type	2
3	BTC-102	BTC-102	BTC-102	BTC-102	Washer—Spacer, Wheel	2
4	BTC-103	BTC-103	BTC-103	BTC-103	Arm Ass'y.—Brake (Includes L.H. Swivel Nut)	1
5	BTC-104	BTC-104	BTC-104	BTC-104	Wheel Assembly	2
6	BTC-105	BTC-105	BTC-105	BTC-105	Spring Pin—Brake Shoe	2
7	BTC-106	BTC-106	BTC-106	BTC-106	Shoe—Brake (Serrated)	2
8	BTC-107	BTC-107	BTC-107	BTC-107	Bolt—Fit, Hex Head (Brake Arm Pivot)	2
9	BTC-108	BTC-108	BTC-108	BTC-108	Pin—Swivel	4
10	BTC-109	BTC-110	BTC-111	BTC-112	Tee—Connecting	1
11	BTC-113	BTC-113	BTC-113	BTC-113	Arm Ass'y.—Brake (Includes R.H. Swivel Nut)	1
12	BTC-114	BTC-114	BTC-114	BTC-114	Stud—Adjusting, Brake Shoe	2
13	BTC-115	BTC-115	BTC-115	BTC-115	Wheel—Chain, Hand	1
14	BTC-116	BTC-116	BTC-116	BTC-116	Ring—Retaining, External	1
15	BTC-117	BTC-117	BTC-117	BTC-117	Washer—Spacer	2
16	BTC-118	BTC-118	BTC-118	BTC-118	Link—Connecting, Open	1
17	BTC-119	BTC-119	BTC-119	BTC-119	Chain—Hand (2 Times Lift Minus 2')	1
18	BTC-120	BTC-120	BTC-120	BTC-120	Guide—Chain	1
19	BTC-121	BTC-121	BTC-121	BTC-121	Nut—Swivel (R.H. Thread)	1
20	BTC-122	BTC-122	BTC-122	BTC-122	Nut—Self-Locking	2
21	BTC-123	BTC-123	BTC-123	BTC-123	Shaft—Chain Wheel	1
22	BTC-124	BTC-124	BTC-124	BTC-124	Key—Woodruff	1
23	BTC-125	BTC-125	BTC-126	---	Pin—Cotter	2
24	BTC-127	BTC-128	BTC-129	---	Washer—Spacer	*
25	BTC-130	BTC-130	BTC-125	BTC-131	Pin—Cotter	1
26	BTC-132	BTC-133	BTC-134	---	Cross bar	1
27	BTC-135	BTC-135	BTC-136	BTC-137	Pin—Connecting	1
28	BTC-138	BTC-138	BTC-138	BTC-138	Nut—Swivel (L.H. Thread)	1

* As required.

Notes

Recommended Spare Parts for Your Track Clamp Assembly

Certain parts of your Track Clamp will, in time, require replacement under normal wear conditions. It is suggested that the following parts be purchased for your Track Clamp as spares for future use.

Description	Number Required
Wheel Assembly	2
Shoe—Brake (Serrated)	2
Stud—Adjusting, Brake Shoe	2
Wheel—Chain, Hand	1
Chain—Hand	As Required
Link—Connecting, Open	As Required

NOTE: When ordering parts, always furnish Model and Catalog Number of Track Clamp Assembly.

Parts for your Track Clamp Assembly are available from your local authorized BUDGIT repair station. For the location of your nearest repair station, write:

Crane & Hoist Operations
Lift-Tech International, Inc.
Muskegon, Michigan 49443

or phone:

616/733-0821.