



CABLE PUSHER

OPERATION & MAINTENANCE MANUAL



Model 89760

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GMP Limited Warranty can be found at <http://www.gmptools.com/warranty/>



1.0 INTRODUCTION



Founded by engineer George M. Pfundt in 1936, GMP started operations in a downtown Philadelphia building as a specialty machine shop doing work for the local Bell Telephone company and for the electric utility company. GMP expanded to a production shop after landing a contract with Western Electric Company and, subsequently, forming a close relationship with Bell Telephone Laboratories in Murray

Hill, N.J., which enabled it to manufacture prototypes of products for experimental use within the Bell System.

Having outgrown the original factory building, the company built a 100,000 square foot plant in Trevese, PA (a Philadelphia suburb) and moved there in 1957. Today GMP is recognized as a premier worldwide supplier of specialty tools and equipment for the outside plant marketplace. The company's products are known for their robust design and durability to withstand many years of frequent use.



2.0 SAFETY INSTRUCTIONS

THIS EQUIPMENT MUST ONLY BE USED BY AUTHORIZED PERSONNEL, WHO HAVE BEEN SUITABLY TRAINED AND COMPETENT TO DO SO.

THESE INSTRUCTIONS ARE TO BE MADE AVAILABLE TO OPERATORS OF THIS EQUIPMENT AT ALL TIMES, FAILURE TO OBSERVE THESE SAFETY INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY AND / OR PROPERTY DAMAGE.

WORK AREA AND GENERAL SAFETY

1. Read and understand the operation and maintenance manual supplied with this equipment. Keep it in a convenient place for future reference.
2. Keep children and untrained personnel away from this equipment while in operation.
3. Keep all guards and safety devices in place. Do not operate this equipment with guards removed or damaged.
4. Keep hands and feet and loose clothing away from moving parts especially at cable entry point.
5. Always stop the machine and isolate the hydraulic services before carrying out lubrication and servicing.
6. Check machine before starting for worn or damaged parts. Check that all nuts and bolts are tight.
7. If machine is left unattended, ensure that unauthorised use is prevented.
8. Never leave the machine unattended while in use.
9. Consider the use of safety barriers, especially when used in public places.
10. Beware of pinch points involved with rotating components, e.g. screw operated tractor drive lifting mechanisms.
11. Beware of hot surfaces, machine uses hydraulic services.
12. When operating the machine always wear eye protection, hard hat, safety shoes and leather gloves. The machine operates with hydraulic oil at pressure of 60 bar.
13. Some competent and assembly parts are in excess of 55lbs. (25kg). When lifting care must be taken, ensure sufficient man power/lifting gear is available, to prevent personal injury and damage to the machine.
14. Prior to installation ensure the sub duct route (if applicable) is connected properly.

GENERAL HYDRAULIC SAFETY INSTRUCTIONS

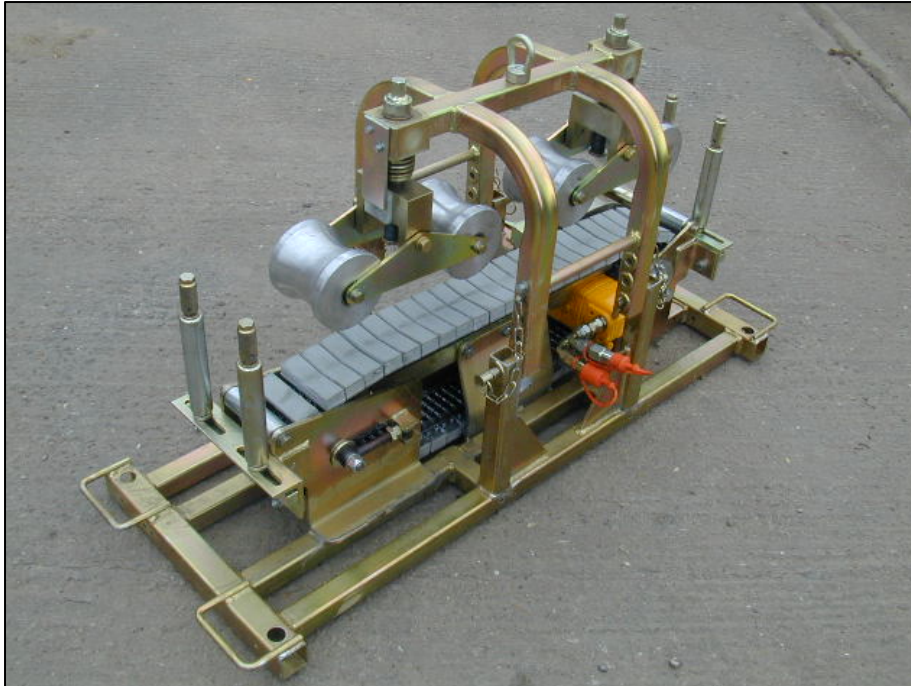
Escaping fluids under pressure can penetrate the skin and cause serious personal injury. Observe the



following precautions to avoid hydraulic hazards:-

1. Tighten, secure all connections before applying pressure. Relieve pressure when connecting or disconnecting hoses when servicing the unit.
2. Check for leaks with a piece of cardboard. **Do not use your hands!**
3. Do not exceed working pressure of hydraulic hoses.
4. Visually inspect hoses regularly and replace if damaged.

3.0 GENERAL DESCRIPTION



C-1350

PUSHER

CABLE

The machine comprises of an hydraulically driven cable pusher unit designed to provide an effective and safe method of installing 1 1/4 - 6" (30 –150mm) Dia. cable up to a speed of 33 ft/min (10 m/min). The pusher unit is mounted on a sturdy anti corrosion treated tubular steel frame and is powered by a hydraulic supply system operating from a recommended supply of 870 psi (60 bar) x 4.75 gpm (18 litres/ min).

The cable pusher is fitted with adjustable vertical rollers at each end to guide the cable through the machine.

2 x hydraulic hoses x 23' (7m) long can be supplied as an optional extra.

FEATURES

CABLE FEEDER

- Manufactured from fabricated and machined steel
- Hydraulically powered
- Unit lifts and splits to allow insertion of cable between drive chain and roller.
- Drive chain has, optimised profile and moulded to chain drive unit ensuring long life between replacement..
- Belt tension can be set by means of adjustable chain drive tensioner fitted to side of unit.

CHASSIS

- Lightweight anti corrosion painted tubular steel frame
- Hydraulic control lever mounted on handle
- Quick release hydraulic hose couplings

4.0 SPECIFICATION

Serial No:

OPERATING CAPACITIES

Pushing Force:	1100 - 1540 lbs. (500 - 700 kg) at 870 psi. (60 bar)
Pushing Speed:	0 - 33 ft./ min (0 – 10 m/min)
Minimum cable diameter	1 1/4" (30 mm)
Maximum cable diameter	6" (150 mm)

HYDRAULIC DRIVE SYSTEM

Operating Pressure:	870 psi. (60 bar)
Flow:	4.75 gpm (18 Litres/min) (recommended)
Relief Valve Setting:	870 psi. (60 bar)

DIMENSIONS AND WEIGHTS

Height:	30.3" (740 mm)
Length:	54.7" (1390 mm)
Width:	19.7" (500 mm)
Weight:	440 lbs. (200 kg)

Drive Chain Lubrication:	Metaflux 70-07 Grease Spray
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5.0 OPERATING PROCEDURE

IT IS IMPERATIVE THAT ALL PERSONS USING, OPERATING OR MAINTAINING THIS WINCH BE FULLY TRAINED AND COMPETENT TO DO SO, AND HAVE READ THE ENTIRE OPERATING MANUAL.

GENERAL MACHINE PRODUCTS CANNOT BE HELD RESPONSIBLE FOR MIS-USE OF THIS EQUIPMENT.

- Position the cable pusher at the desired angle for entry into the joint box, ideally this should be on firm level ground.
- Ensure that the cable pusher is adequately anchored down / restrained.
- Raise the upper roller assembly by removing 2 retaining pins from one side and pivot roller assembly out of the way.
- For large diameter cables it may be advantageous to remove 2 vertical end rollers from the same side as of the machine as the removed retaining pins.
- Cable can now be laid onto drive chain.
- Replace vertical end rollers, (if removed to allow easy access to insert the cable) and adjust to give a 5mm clearance each side of the cable.
- Ensure the upper rollers are positioned at the top position of their travel.
- Pivot the upper roller assembly back to the operating position, ensure that the best hole position to suit the size of the cable is selected and refit the 2 retaining pins.
- Lower the two sets of rollers in conjunction by tightening the main jacking screws until contact is made with the cable, then turn the jacking screw a further 1½ turns.
- Connect the hydraulic hoses from the hydraulic power pack and suitable control valve via the quick release couplings..
- Start the power pack and operate the hydraulic control lever to commence the cable feed operation, NOTE the power pack operator must be competent and fully trained in the use of the power pack.



6.0 MAINTENANCE

To ensure reliable service from the Cable Pusher, GMP recommends the unit to be completely serviced at 6 monthly intervals.

TRACTOR DRIVE

Inspect the chain drive blocks for wear. Clean all drive blocks after each operation or as required. (it may be necessary to remove the upper roller frame assembly to clean thoroughly). Check the chain tension weekly and adjust if necessary with the two external adjustment screws. (Do not over tension – the chain should just slightly lift of the chain guides when pulled at the centre by finger).

GENERAL

The machine should be wiped clean after use and stored under cover.

Oil the frame pivot points monthly and apply grease to the jacking screw thread. After each use clean off any dirt/debris from the cable guide rollers and upper frame rollers.

The chain should be lubricated every week by application of Metaflux Spray Grease 70-07. This is achieved by running the unit (without any cable).

Do not over lubricate as this may lead to contamination of the drive belts. Should contamination of the belts occur, wipe the belts thoroughly clean before attempting any cable pushing operation.

Check the condition of the hydraulic hoses each time and replace if worn or damaged.

6.1 MAINTENANCE SCHEDULE

PROCEDURE	DAILY	WEEKLY	MONTHLY
Clean all assemblies and components thoroughly			
Inspect hydraulic hoses for leaks and cracks			
Inspect fasteners, screws and retaining pins/wires			
Check/Adjust chain tension			
Check tractor drive pads for wear/damage			
Clean cable entry bracket			
Oil the frame pivot points			
Grease jacking screw thread			
Oil oilite bearings with light machine oil			
Lubricate drive chain*			

- Should be more often if subjected to enable normal use and/or excessive contamination.

7.0 MONTHLY SERVICE – CHECK LIST

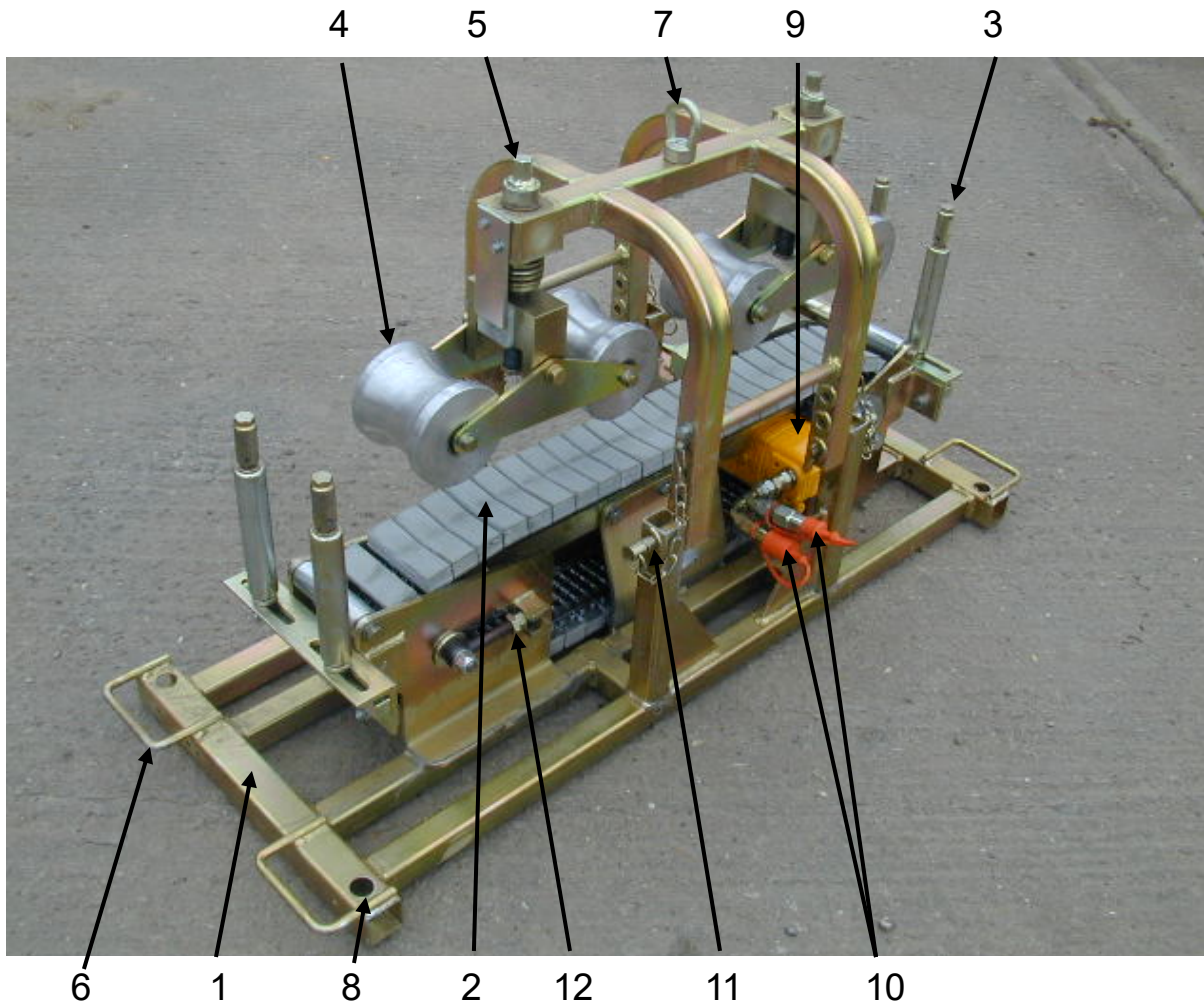
- Check the chain for excessive wear. Replace, if required – and lubricate with the spray grease provided.
- Remove any debris / dirt from the drive belts, upper frame rollers and cable guide rollers.
- Check the chain support pad for excessive wear, replace if required.
- Check all other moving parts e.g. bearings, shafts, sprockets etc – and lubricate.
- Check main jacking screws – and lubricate.
- Check all hydraulic fittings for leaks.
- Check the hydraulic hoses for external damage.
- Check entry /exit guide rollers and upper frame rollers for excessive wear.

8.0 SERVICE HISTORY RECORD

Service No	Date	Record of Repair	Carried out by



9.0 EQUIPMENT LAYOUT



- 3 VERTICAL END ROLLER (CABLE GUIDE)
- 4 UPPER ROLLER ASSEMBLY
- 5 UPPER ROLLER ADJUSTING SCREW
- 6 LIFTING HANDLE
- 7 UNIT LIFTING EYE BOLT
- 8 GROUND ANCHOR / CABLE PUSHER RESTRAINING HOLE
- 9 HYDRAULIC MOTOR
- 10 HYDRAULIC HOSE CONNECTIONS
- 11 UPPER ROLLER FRAME RETAINING PIN
- 12 DRIVE CHAIN ADJUSTING NUT

1 BASE
2 DRIVE

FRAME
BELT



10.0 RECOMMENDED SPARES LIST

For spare parts always quote the model type serial number and contact:-

General Machine Products (KT), LLC
3111 Old Lincoln Hwy
Trevose, PA 19053 • USA

TEL: +1-215-357-5500 • FAX: +1-215-357-6216 • EMAIL: info@gmptools.com

TYPICAL SPARES:

Part No.	Description	Qty Required
34496	Chain 3/4" Triplex	1
89153	Metaflux Chain Spray 70-88	1

Please give as much information as possible to ensure correct identification and supply of spare parts.



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