

# Inside Front Cover

# COMPARE these outstanding WOLVERINE clamp features

- FAST ACTION Wolverine clamps are carefully engineered to lock quickly and positively—release instantly and allow maximum clearance in open position.
- RUGGED STRENGTH Drop forged body components, machine reamed bearing surfaces, and hardened steel pins and bushings assure positive clamping that stands up to high pressures and vibration.
- UNUSUAL DURABILITY Husky construction of drop-forgings and solid bar stock will give long, efficient service under heavy abuse. Each clamp, black oxide coated for wear and corrosion resistance.
- PRECISION CONSTRUCTION Accuracy of all fitted parts and careful machining assures smooth, uniform clamping action.
- VERSATILITY Wolverine clamps are available in a variety of styles and types. Most units can be had with bar base for welding or angle base for bolting. Heavy arm sections are easily drilled and tapped for adjustment bolts or readily adapted to the welding of special adaptors. There is a style to meet almost every requirement.
- ECONOMY Wolverine standard Toggle clamps are quality built in quantity production to assure off-the-shelf availability to our customers. Our production savings are reflected in their moderate cost. The quality materials and careful workmanship in Wolverine clamps will show you additional economy in better performance and substantially longer service life.

QUALITY IS ALWAYS GOOD ECONOMY!

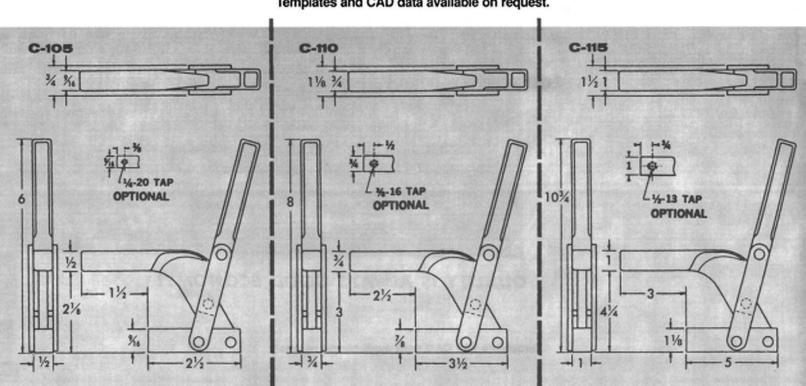


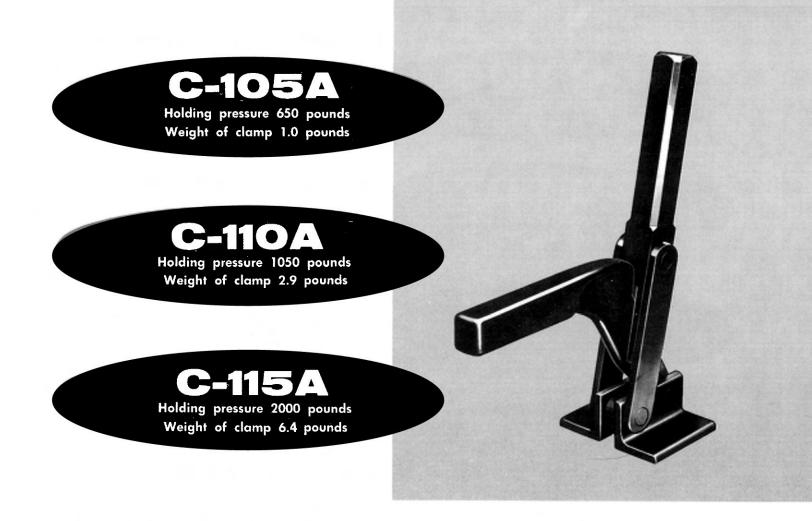
The C-100 series is a fast action, moderate clearance, economy priced clamp that is very popular with our customers for general use. It is well designed and built of quality materials with hardened steel pins and bushings at all bearing points.

These models have a sturdy, solid bar base designed primarily for welding into work position.

Full and half-size tracing templates are available on request.

Templates and CAD data available on request.

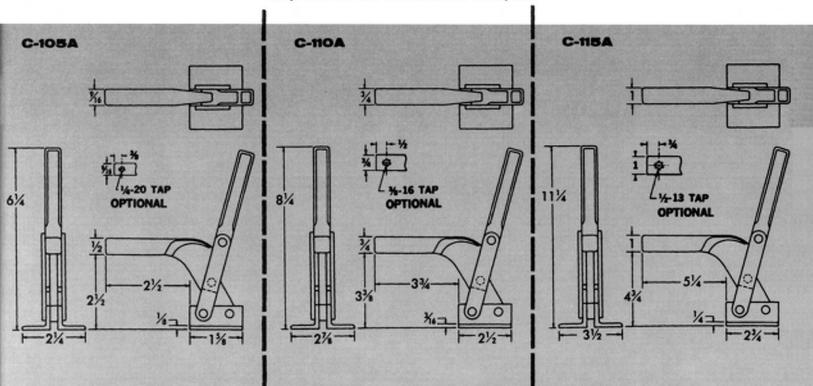




The C-100A series is a fast action, moderate clearance, economy priced clamp identical in all details to the C-100 series, except that it has an angle base for drilling and bolting into work position, instead of the solid bar base. This clamp is built of excellent quality mate-

rials and long experience has proved that it will give very dependable service under the most rugged conditions.

Full and half-size tracing templates are available on request.



## CQ-1105

Holding pressure 690 pounds Weight of clamp .7 pounds

## CQ-1107

Holding pressure 850 pounds Weight of clamp 1.4 pounds

## **CQ-1110**

Holding pressure 1050 pounds Weight of clamp 2.3 pounds

## **CQ-1115**

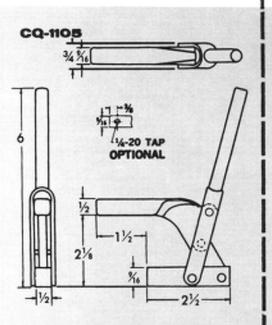
Holding pressure 2100 pounds Weight of clamp 5.1 pounds

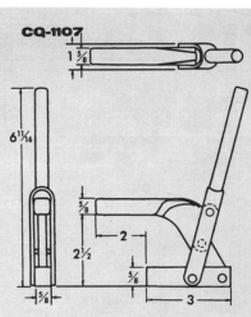
The CQ-1100 series clamps are designed for extra fast, smooth action with maximum open clearance and positive holding.

These models have a husky, solid bar stock base designed primarily for easy welding into work position.

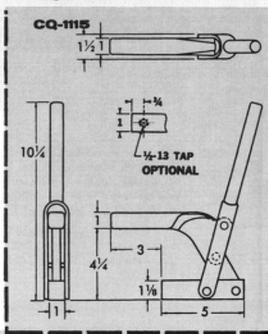
Hardened steel pins and bushings, drop forged arm and durable black oxide finish assure long, trouble-free service.

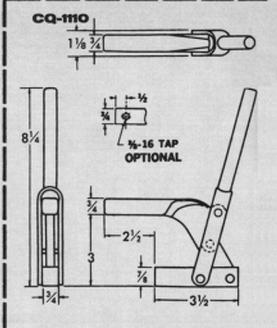
Full and half-size tracing templates are available on request.











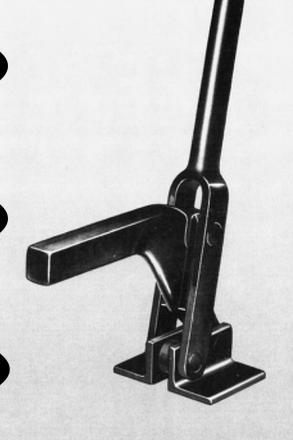


## **CQ-1110A**

Holding pressure 1000 pounds Weight of clamp 2.4 pounds



Holding pressure 2000 pounds Weight of clamp 5.1 pounds



The CQ-1100A series is identical to the CQ-1100 series in design and quality construction, with these exceptions:

The A series has an angle base for drilling and bolting into work position instead of the solid bar base. The A series has a deeper throat depth and more height under the clamping bar in closed position.

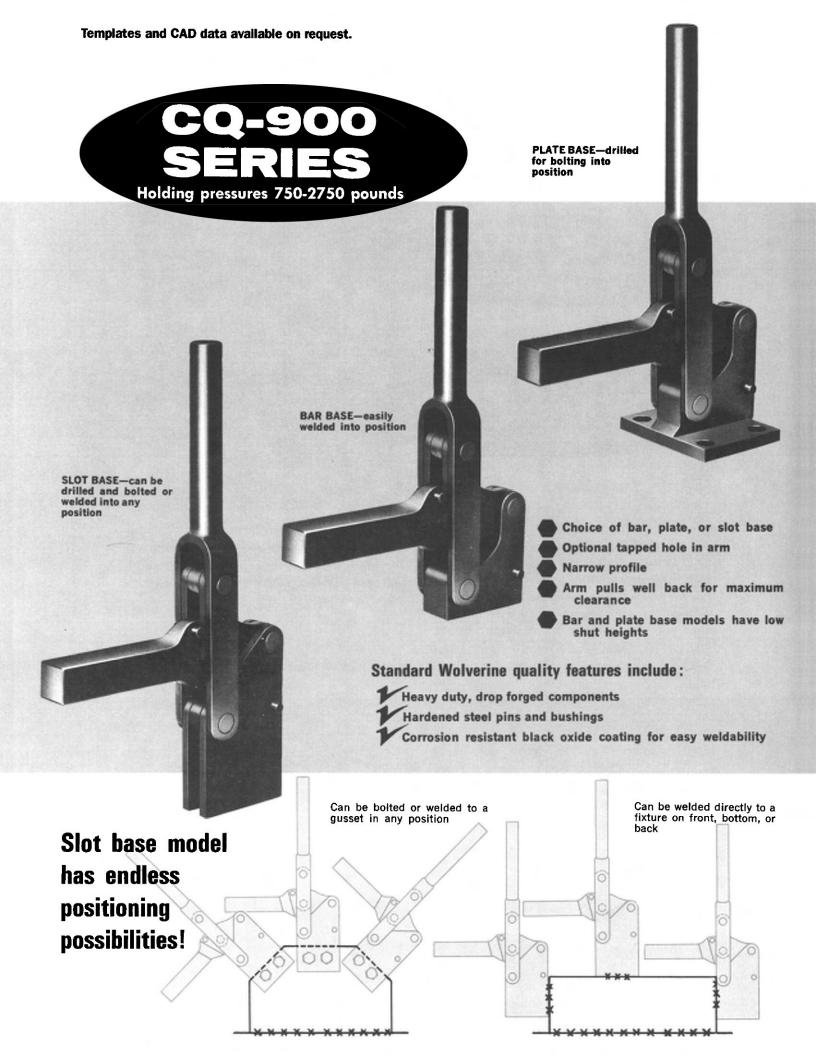
Full and half-size tracing templates are available on request.

Templates and CAD data available on request.

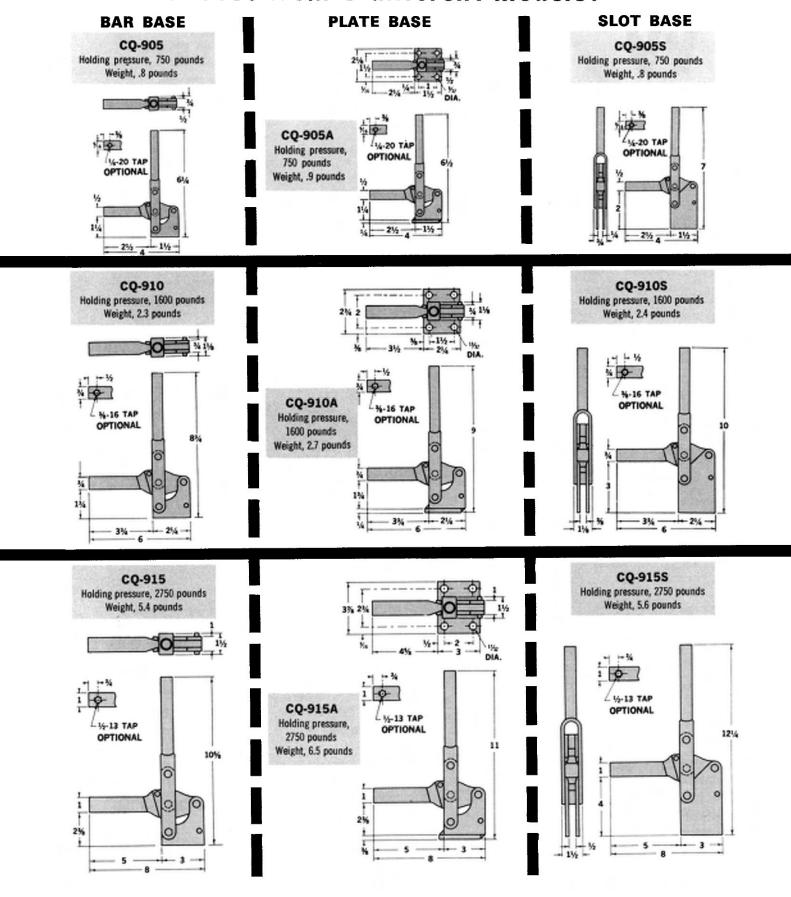
CQ-1110SA

CQ-110SA

CQ-1110SA



## Choose from 9 different models!





# WOLVERINE POWER OPERATED TOGGLE CLAMPS



#### Wolverine Quality Features include:

- · Hardened pins and bushings for longer life.
- Drop forged components for extra strength.
- Black oxide finish for corrosion resistance.
- · Optional tapped hole in arm available.

#### Special features provided in the Power Operated Clamp Unit include:

- · Hardened links and clevis.
- · Reinforced stop pin.
- Air or hydraulic operation.
- Double acting cylinder.
- · Chrome plated piston rod.
- Serviceable wipers and seals.

Wolverine Power Operated toggle clamps are designed to increase productivity and allow the use of automated clamping systems. Available in three sizes, the unit's quality components allow maintenance free operation for many thousands of cycles. The toggle clamp powered by a double acting cylinder will remain locked should line pressure fail.

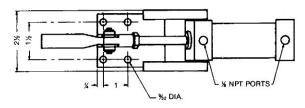
Magnetic piston and reed or hall effect switches are available for automatic position sensing on the cylinder.

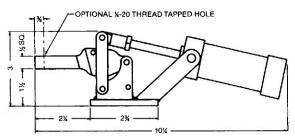
Clamp specifications on opposite side



### DESIGN AND ENGINEERING DATA

All dimensions in inches

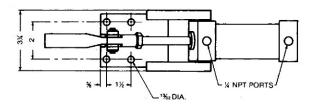


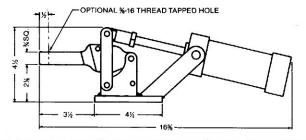


#### A-1905 Weight 2.9 pounds

Holding pressure 750 pounds max. Arm opens over 100 degrees Optional tapped hole %-20 thd

Double acting cylinder 1½" bore Air or hydraulic operated Line pressure 100 psi max.

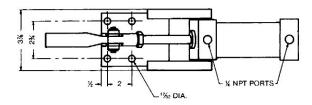


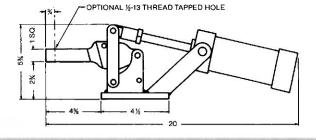


#### A-1910 Weight 9.0 pounds

Holding pressure 1600 pounds max. Arm opens over 100 degrees Optional tapped hole %-16 thd

Double acting cylinder 2" bore Air or hydraulic operated Line pressure 100 psi max.





#### A-1915 Weight 15.8 pounds

Holding pressure 2750 pounds max. Arm opens over 100 degrees Optional tapped hole ½-13

Double acting cylinder 2½" bore Air or hydraulic operated Line pressure 100 psi max.

WOLVERINE Model C-300 SERIES

LO-PRO

TOGGLE
CLAMPS

MODEL C-310 AT (with spindle)

## SOLVE INTERFERENCE PROBLEMS

- LOW PROFILE AND NARROW WIDTH
- MAXIMUM CLEARANCE UNDER CUTTING ARBORS AND DRILLING CHUCKS
- MINIMUM INTERFERENCE WITH WELDING GUNS

- NO PROTRUDING HANDLE—IDEAL FOR NC
- LONGER WEAR—HARDENED PINS AND BUSHINGS
- RIGID, RUGGED, ACCURATE REPEAT CLAMPING—SOLID BAR CONSTRUCTION

Templates and CAD data available on request.

WITH PLATE BASE	C-305A	C-310A	Clamps can be welded directly on a fixture,	
WITH TAPPED HOLE	C-305T	C-310T	or used with plate base for bolting into	
WITH PLATE BASE AND TAPPED HOLE	C-305AT	C-310AT	position. Spindle also available.	

Model C-305-600 pounds holding pressure-wt. .8 pounds

3/4 21/6 21/2 11 DIA.

1/2 0 3/6 90 67\*

1/4 - 20 TAP

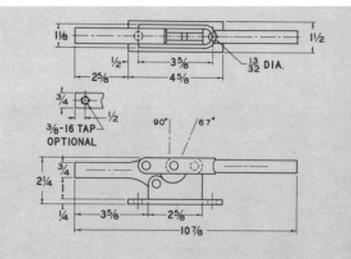
OPTIONAL

13/4 13/16

1/4 23/4 17/8

8 1/8

Model C-310-1300 pounds holding pressure-wt. 2.2 pounds





Wolverine Heavy Duty Compact Toggle Clamps are specifically designed to provide the tool designer and plant engineer maximum flexibility in their application. Design your own arm extension for a specific need or utilize one of our optional arm extentions. The handle and arm are welded in place at assembly to assure proper positioning. Four sizes are available to meet your clamping needs. We are confident that the quality construction and numerous features of our Heavy Duty Compact Clamps will help you meet todays demand for increased productivity and quality control.

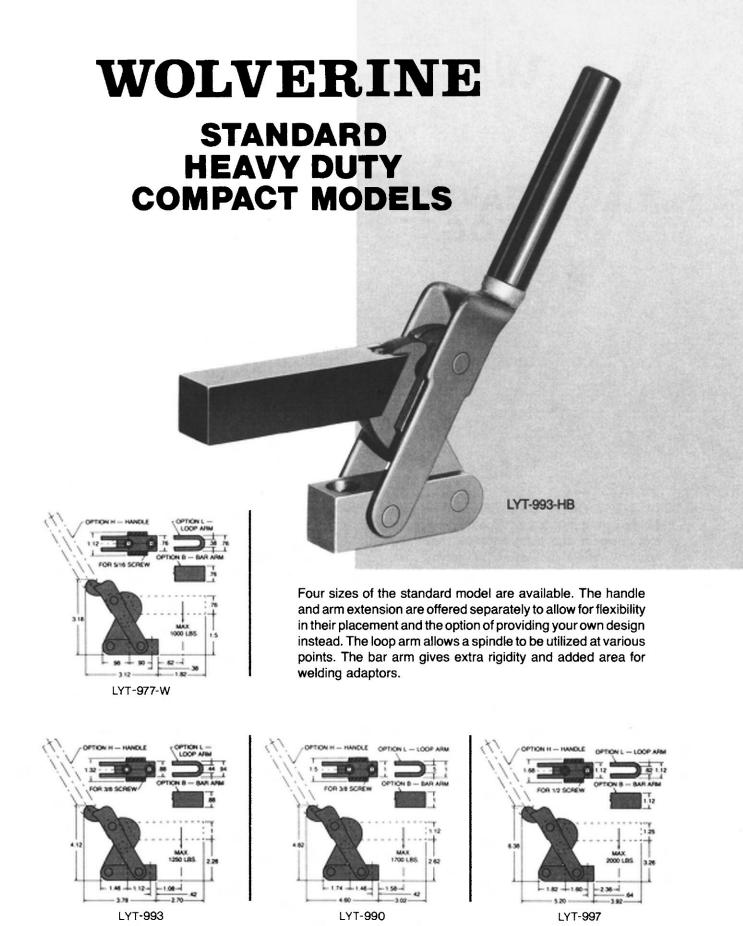
#### **FEATURES:**

- Large hardened pins and bushings for longer life.
- Drop forged components for extra strength.
- Compact linkage for best size to strength ratio.
- Arm and handle welded at assembly for greater versatility.

#### **OPTIONAL FEATURES:**

- Optional loop or bar arm for design flexibility.
- Optional handle can be welded at any angle.
- Guided arm clamps for location accuracy.
- Latch open clamps to prevent accidental closings.



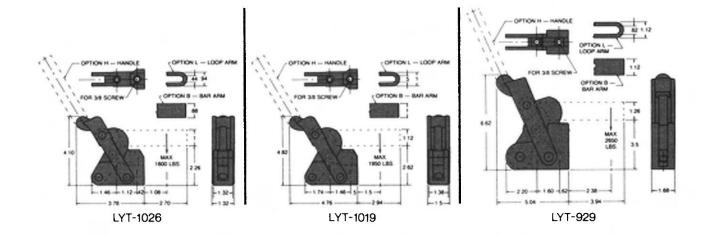


# WOLVERINE

## **GUIDED ARM MODELS**

Three sizes of the guided arm model are available. The guided arm design is used to insure accurate placement of the clamping arm regardless of the clamps orientation or length of service. An added feature is the no-load lock capability which is available on the LYT-1026 and LYT-1019 models. The no load lock is used for locating applications where the arm is not utilized as a clamp.

LYT-1026-HB





## LATCH OPEN MODELS

The latch open design is used to keep the clamp positively held in the open position. The handle notch is designed to accept a 3/8" diameter pin properly located at assembly to insure that the clamp will not accidentally close due to vibration or orientation. There is an equivalent latch model for most of our Heavy Duty Compact Clamps. See the chart below to select the proper latch model.



LYT-1033-HB

Clamp	Α	В	С
LYT-1033	5.68	5.26	4.06
LYT-1034	6.32	5.96	4.90
LYT-1035	7.46	6.18	5.44
LYT-1036	7.62	6.28	5.56
LYT-1037	6.42	6.06	4.94
LYT-1039	5.66	5.18	3.98

Templates and CAD data available on request

#### **ORDERING CHART**

Model	Equivalent Latch Model
LYT-929	LYT-1036
LYT-977-W	N/A
LYT-990	LYT-1034
LYT-993	LYT-1033
LYT-997	LYT-1035
LYT-1019	LYT-1037
LYT-1026	LYT-1039

## HOW TO ORDER OPTIONAL ITEMS:

LYT-1033-HB

		_
Option	Suffix	
Handle	Н	
Bar Arm	В	
Loop Arm	L	

## WOLVERINE TOGGLE CLAMP SPINDLES

for use with WOLVERINE TOGGLE CLAMPS



Ideal for many common clamping applications. Flat head assures greater contact area. Use on tapped or clearance holes.

10 100	8	300
Part No.	Thread Size	Overall Length
10125	1/4-20	1-5/8
10130	1/4-20	2-3/8
10135	1/4-20	3-1/8
10140	5/16-18	1-11/16
10145	5/16-18	2-11/16
10148	5/16-18	3-11/16
10150	3/8-16	2-1/4
10155	3/8-16	3-1/4
10160	3/8-16	4-1/4
10175	1/2-13	2-13/16
10180	1/2-13	4-5/16
10185	1/2-13	5-13/16
10190	5/8-11	3-3/8
10195	5/8-11	4-7/8
10198	5/8-11	6-3/8

## URETHANE-TIP SPINDLE

Will not mar or slip. Compensates for small variations in part size. Permanently bonded—can be reshaped to fit part contour. Color-coded red. Far outperforms and outlasts outmoded neoprene-tipped spindles.

Part No.	Thread Size	Overall Length	Tip Length	Tip Dia.
10225	1/4-20	2-1/4	3/4	5/8
10230	1/4-20	3	3/4	5/8
10235	5/16-18	2-3/8	7/8	3/4
10240	5/16-18	3-3/8	7/8	3/4
10250	3/8-16	3	1	7/8
10255	3/8-16	4	1	7/8
10275	1/2-13	3-7/8	1-3/8	1-1/8
10280	1/2-13	5-3/8	1-3/8	1-1/8
10290	5/8-11	4-5/8	1-5/8	1-3/8
10295	5/8-11	6-1/8	1-5/8	1-3/8

Templates and CAD data available on request.

# SPRING-LOADED SPINDLE

Welds to end of clamp arm. Pre-loaded spring assures even clamping pressure and allows for variation in part size. Hardened components for wear resistance.

Part No.	Thread Size	Overall Length	Lbs. Pressure at 1/8" Deflection
10535	1/4-20	3-5/32	36
10560	3/8-16	4-1/4	70
10585	1/2-13	5-13/16	65

# SWIVEL-FOOT SPINDLE

For sure clamping on uneven or angled surfaces. Pad moves 10° off perpendicular in any direction. Knurled near foot to facilitate fine adjustment.

Part No.	Thread Size	Overall Length	Thread Length	Pad Dia.
10425	1/4-20	1-7/8	1-5/32	1/2
10430	1/4-20	2-5/8	1-29/32	1/2
10450	3/8-16	2-3/8	1-15/32	5/8
10455	3/8-16	3-3/8	2-15/32	5/8
10475	1/2-13	3	1-7/8	7/8
10480	1/2-13	4-1/2	3-3/8	7/8





C-131\*

Holding pressure 2500 pounds
Weight of clamp .7 pounds

C-130

Holding pressure 5800 pounds Weight of clamp 2.5 pounds

C-132

Holding pressure 10,000 pounds
Weight of clamp 5.2 pounds

The C-130 series is a fast push action unit with straight line plunger motion. Ideal for precision locating and clamping.

Plunger is tapped for standard bolt and withdraws flush with body block face in open position. Solid bar base permits easy welding into work position.

Plunger guide hole is drilled and broached to close tolerance fit with accurately ground plunger. Hardened steel pins and bushings are used at important bearing points.

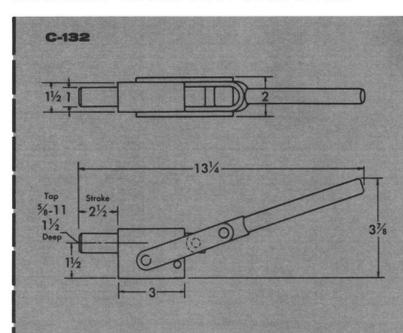
Full and half-size tracing templates are available on request.

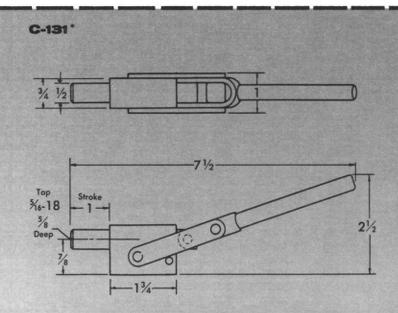
\*C-131 precedes C-130 in this series.

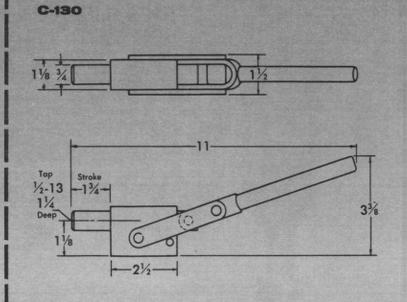
Templates and CAD data available on request.

NO LOAD LOCK OPTION AVAILABLE

### FEATURES HARDENED PLUNGERS







C-131A\*

Holding pressure 2500 pounds

Weight of clamp 1.2 pounds

## C-130A

Holding pressure 5800 pounds Weight of clamp 3.0 pounds



Holding pressure 10,000 pounds Weight of clamp 6.5 pounds



### FEATURES HARDENED PLUNGERS

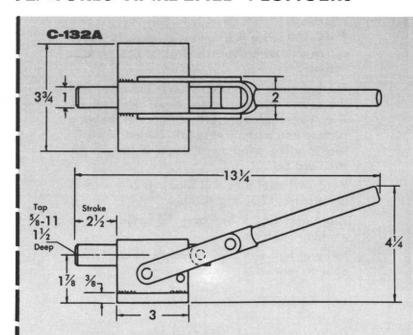
The C-130A series is a low profile, fast push action unit with straight line plunger motion, with identical design and quality construction as C-130.

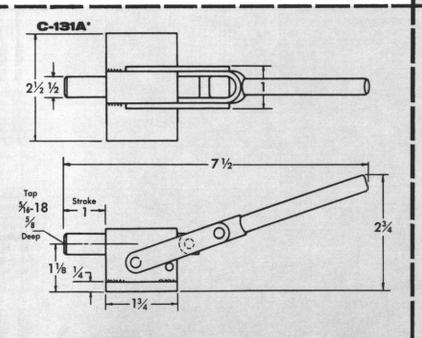
However, the A series has a plate base for drilling and bolting into work position instead of the plain bar base.

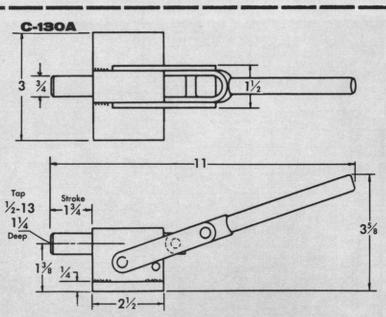
Broached plunger guide hole and precision ground plunger plus hardened steel pins and bushings at important bearing points make this clamp ideal for accurate locating use.

Full and half-size tracing templates are available on request.

\*C-131A precedes C-130A in this series.







C-151\*
Holding pressure 2500 pounds
Weight of clamp .8 pounds

C-152
Holding pressure 10,000 pounds
Weight of clamp 5.4 pounds

Holding pressure 5800 pounds Weight of clamp 2.5 pounds

NO LOAD LOCK OPTION AVAILABLE

The C-150 series is a square plunger, fast push action unit with accurate straight line plunger motion.

Plunger guide hole is accurately broached and the square plunger has a close tolerance fit. The square plunger affords greater bearing surface and permits easy attachment of auxiliary locating adaptors. Plunger is tapped for standard bolt.

Hardened steel pins and bushings are used at all important bearing points.

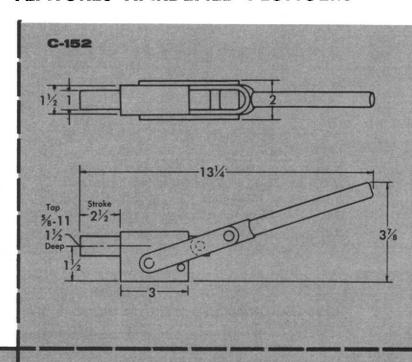
This series has a bar base for welding into working position.

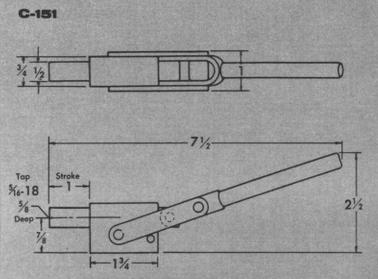
Full and half-size tracing templates are available on request.

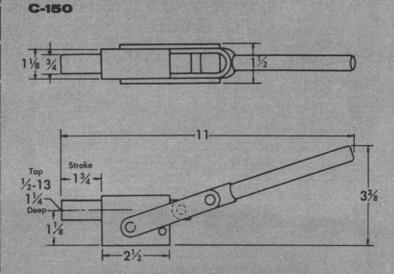
\*C-151 precedes C-150 in this series.

Templates and CAD data available on request.

#### FEATURES HARDENED PLUNGERS







C-151A\*

Holding pressure 2500 pounds

Weight of clamp 1.2 pounds

## C-150A

Holding pressure 5800 pounds
Weight of clamp 3.0 pounds



Holding pressure 10,000 pounds
Weight of clamp 6.6 pounds



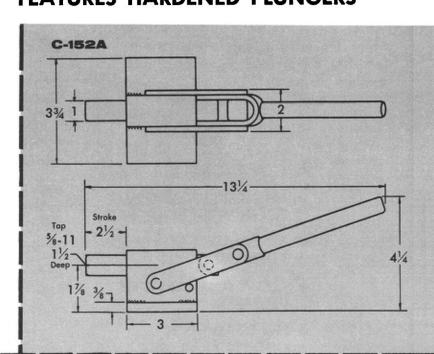
NO LOAD LOCK OPTION AVAILABLE

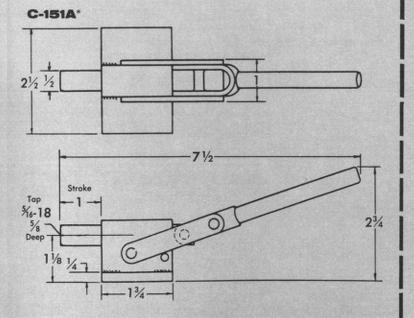
The C-150A series is a square plunger, fast push action unit with accurate straight line motion identical to the C-150 except that it has a sturdy plate base for drilling and bolting into working position.

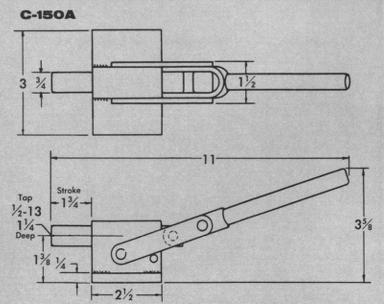
Positive radial location of the square plunger, much greater bearing surface of the plunger and the flat plunger adaptor surfaces make this unit a favorite for use where radial location is important.

Full and half-size tracing templates are available on request.

\*C-151A precedes C-150A in this series.





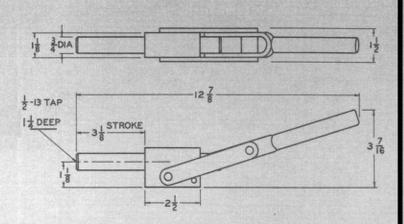


WOLVERINE Model C-133
LONG STROKE
PUSH TYPE
TOGGLE
CLAMP

Here is the long stroke clamp you've been asking for. Accurate, sturdy, wide clearance and budget priced. Ideal for rugged production use in locating or clamping. Locks in extended position.

- EXTRA LONG STROKE (3")
- PLUNGER WITHDRAWS FLUSH WITH BODY FACE
- ACCURATE, BROACHED PLUNGER GUIDE
- CLOSE TOLERANCE FIT PLUNGER
- NO LOAD LOCK OPTION AVAILABLE

Model C-133 — wt. 2.7 pounds with bar base for welding into position



MODEL C-133A
weighs 3.2 pounds

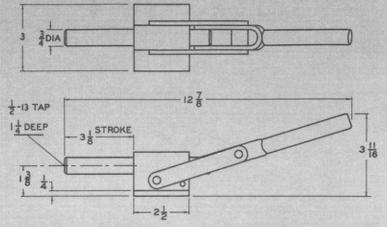
MODEL C-133
weighs 2.7 pounds

FEATURES HARDENED PLUNGERS

- FAST, POSITIVE ACTION
- HARDENED STEEL PINS AND BUSHINGS AT IMPORTANT BEARING POINTS
- WEAR AND CORROSION RESISTANT COATING
- PLUNGER TAPPED FOR STANDARD BOLT

Templates and CAD data available on request

Model C-133A—wt. 3.2 pounds with plate base for drilling and bolting into position



WOLVERINE Model C-153
LONG STROKE
SQUARE PLUNGER
PUSH TYPE
TOGGLE
CLAMP

Templates and CAD data available on request.

Holding pressure 4600 pounds

MODEL C-153A weighs 3.3 pounds

This accurate, sturdy clamp combines two very desirable features—extra long stroke and square plunger. Designed for wide clearance applications, the budget priced C-153 locks in extended position and is ideally suited for rugged production use in locating or clamping.

EXTRA LONG STROKE (3")

- SQUARE PLUNGER PERMITS POSITIVE RADIAL LOCATION
- AUXILIARY LOCATING ADAPTORS EASILY ATTACHED
- ACCURATE, BROACHED PLUNGER GUIDE
- PLUNGER WITHDRAWS FLUSH WITH BODY FACE

- FAST, POSITIVE ACTION
- HARDENED STEEL PINS AND BUSHINGS AT IMPORTANT BEARING POINTS

MODEL C-153 weighs 2.8 pounds

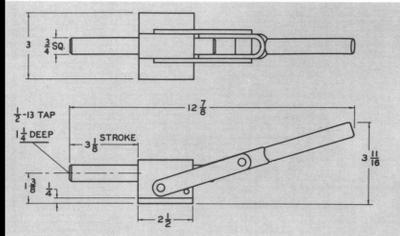
- WEAR AND CORROSION RESISTANT COATING
- PLUNGER TAPPED FOR STANDARD BOLT
- \* NO LOAD LOCK OPTION AVAILABLE

### FEATURES HARDENED PLUNGERS

Model C-153 — wt. 2.8 pounds with bar base for welding into position

1 3 4 SQ 1 2 7 8 1 2 7

Model C-153A—wt. 3.3 pounds with plate base for drilling and bolting into position



## WOLVERINE MODEL C-140

# PULL-TYPE

#### **MODEL C-140A**

with plate base for drilling and bolting into position

Holding pressure 5400 pounds

WEIGHT OF CLAMPS C-140A — 2.8 POUNDS C-140 — 2.3 POUNDS MODEL C-140

with bar base for welding into position

- FAST, POSITIVE ACTION
- ACCURATE, BROACHED
   PLUNGER GUIDE
- HARDENED STEEL PINS AND BUSHINGS AT IMPORTANT BEARING POINTS

A new pull type, fast action clamp that locks in retracted position. Ideal for use where parts are to be pulled into position against a locating face.

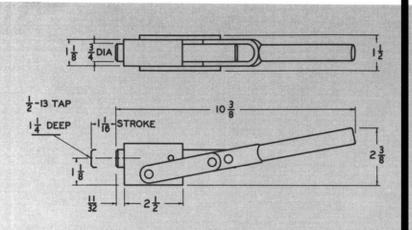
OGGLE

- CLOSE TOLERANCE PLUNGER FIT
- WEAR AND CORROSION RESISTANT COATING
- PLUNGER TAPPED FOR STANDARD BOLT

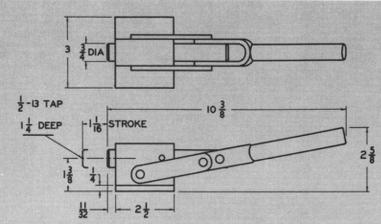
Templates and CAD data available on request.

## FEATURES HARDENED PLUNGERS

Model C-140 - wt, 2.3 pounds



Model C-140A -- wt. 2.8 pounds



# WOLVERINE

## LYT-977-S & LYT-977-SW

## **CHECK FIXTURE CLAMP**

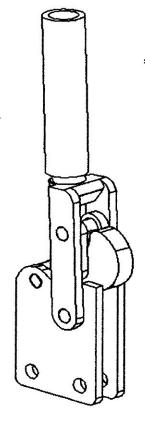
Wolverine Tool has added an EXCITING NEW clamp.

The LYT-977-S & -SW brings a strong but compact clamp to the fixture builder.

The optional yellow vinyl coated safety handle meets fixture standards of the automotive industry.

Check out our arm and spindle options (over).

900 Pound Max Holding Pressure



#### **FEATURING:**

Guided arm for years of accurate clamping.

Hardened pins/bushings for long clamping life.

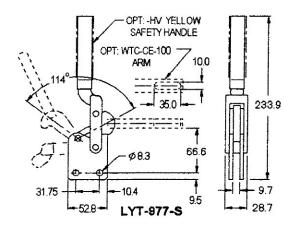
Handle and arm welded into any position.

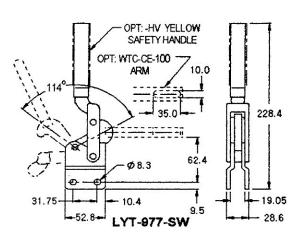
Mounting holes for quick design placement.

CAD files available: Call, E-mail, or download from the WEB.

WEB: www.wolverinetool.com

E-mail: wolverinetool@wolverinetool.com





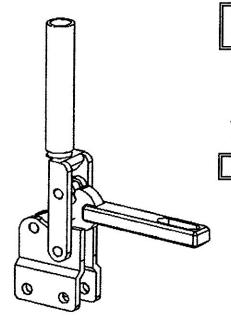
#### **WOLVERINE TOOL COMPANY**

22950 Industrial Drive West, St. Clair Shores, MI 48080-1131 Phone: 586-498-3840 FAX: 586-498-3845

## WOLVERINE

## LYT-977-S & LYT-977-SW

## CHECK FIXTURE CLAMP OPTIONS



### YELLOW SAFETY HANDLE VINYL COATED

\* HANDLE LENGTH 101.6 mm \* ORDER WELDED AS SHOWN: -HV SUFFIX \* ORDER LOOSE TO ORIENT AT ASSEMBLY: -LHV

#### **ARM EXTENSIONS**

\* 1020 CAST STEEL - 50-55 Rb HARDNESS \* WELD AT ASSEMBLY TO ORIENT AS NEEDED \* THREE LENGTHS TO CHOOSE FROM TO FIT ANY APPLICATION \* 10 X 35 SLOT IN EACH ARM FOR SPINDLES

MODEL LYT-977-SW-HV WITH WTC-CE-100 SHOWN

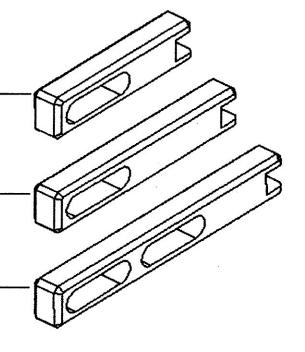
## WTC-CE-75 12.7 X 19.05 X 75 mm LONG

#### WTC-CE-100

12.7 X 19.05 X 100 mm LONG

#### **WTC-CE-125**

12.7 X 19.05 X 125 mm LONG 2 SLOTS FOR DOUBLE SPINDLE



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# Inside Back Cover

