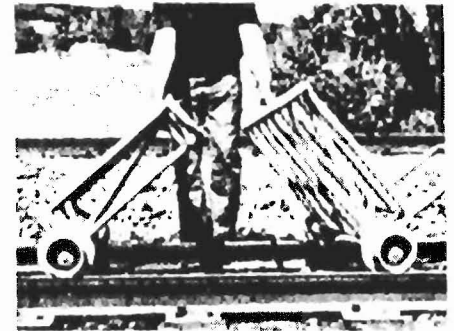
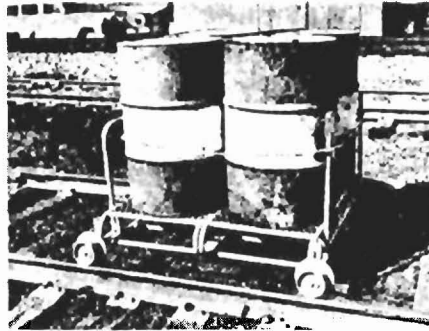


# Tool and Supply Cars, Carts and Dollies

## TS-1 tool and supply cart 5,000 lbs. (2268kg) load capacity

The convenience, durability and load capacity of the TS-1 have made it an industry standard for tool and supply cars. Designed and built for years of maintenance-free operation, the TS-1 offers all of this and more:

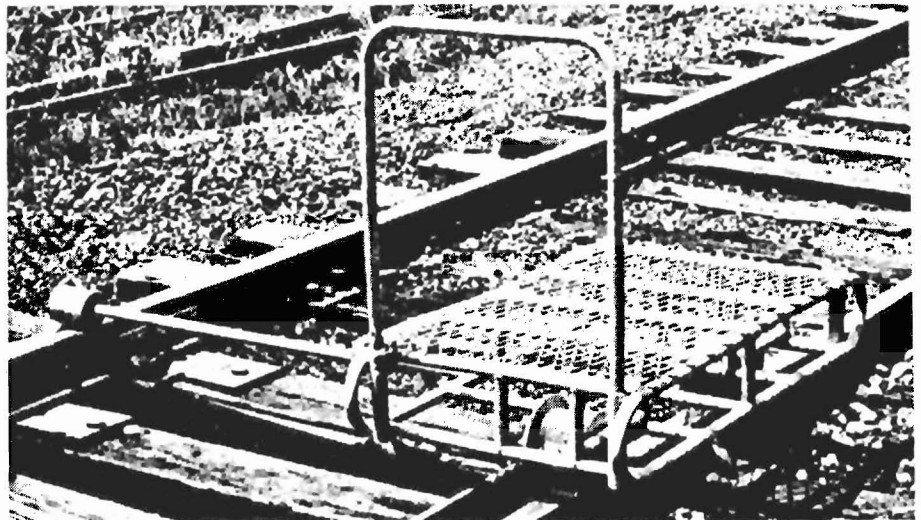


### TS-1 SPECIFICATIONS\*

Length (assembled) .....	56" (1422mm)
Width .....	64" (1626mm)
Height (with handle) .....	28" (711mm)
Deck Height (above rails) .....	9" (229mm)
Weight:	
Total .....	175 lbs. (79kg)
Per Section .....	82 lbs. (37kg)
Handle .....	6 lbs. (3kg)
Deck Area .....	46" x 45" (1168mm x 1143mm)
Load Capacity .....	5,000 lbs. (2268kg)

## TD-3 track dolly 1,500 lbs. (680kg) load capacity

For larger odd sized loads which are impractical for the two wheel models

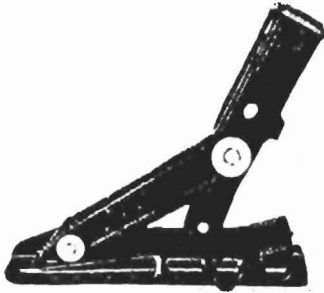


### SPECIFICATIONS\*

	TD-1	TD-2	TD-3
Length—in. (mm)	53 (1346)	36 (914)	43 (1092)
Width—in. (mm)	15½ (394)	14 (356)	41½ (1054)†
Height (with handle)—in. (mm)	31 (787)	31 (787)	32½ (825)
Deck Height (above rails)—in. (mm)	8¼ (210)	8¼ (210)	9¾ (248)
Weight—lbs. (kg)	75 (34)	55 (25)	80 (36)
Load Capacity	1,500 pounds (680 kilograms)		
Frame	High Carbon, Tubular Steel		
Deck	Heavy Duty, Non-Skid Expanded Metal		
Wheels	Cast Aluminum, Double Flanged‡		
Bearings	Pre-Greased, Sealed Ball Type		

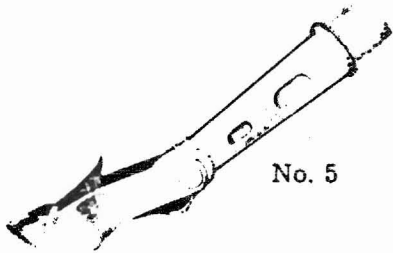
# Track Maintenance Tools

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## TRACK LINER

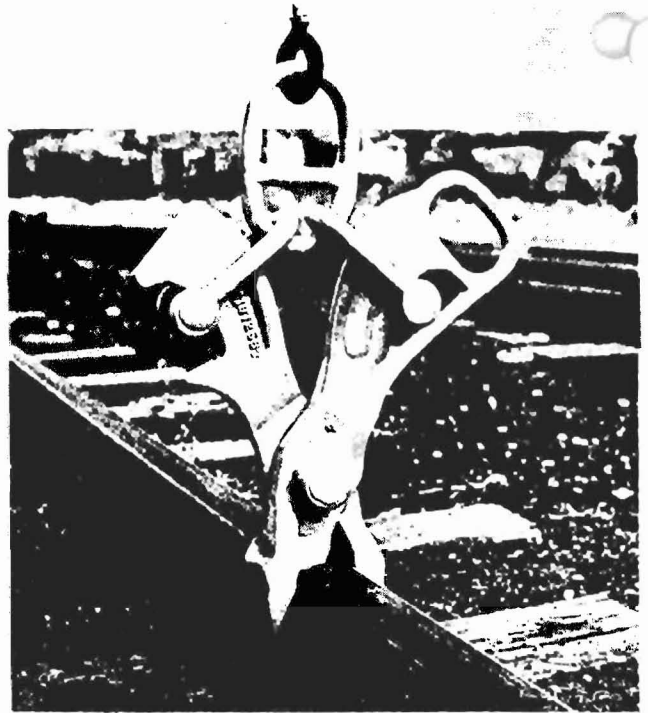
Western B-C is a low cost, husky maintenance tool—yet lightweight. Together with lining bar, this device is used to align tangent and curved tracks.



No. 5

No. 5, A basic Car Mover with ample power to move the heaviest car; light and well balanced. Slip-Proof Spurs provide inverted "V" grip. 70" long—wt. 18 lbs.

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## RAIL TONG-BURRO'

Anti-slip gripping power; A.R.E.A. approved; can handle up to and including 155 lb. standard "T" section rail by either head or base. Designed to pick up 39 ft. rail sections of 155 lb. per yard rail.

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## ALUMINUM TRACK LEVELS & GAUGES

ALDON ALUMINUM TRACK LEVELS and GAUGES are constructed of durable lightweight heat treated extruded and cast aluminum alloy with life-time anodized natural finish. No threads or nuts and bolts to rust. Always accurate. Not affected by climate changes in humidity or temperature.



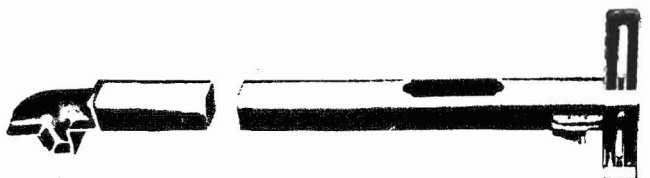
## TRACK LEVEL

Now available also with scales in metric  
on special order



NO. 2 TRACK LEVEL

Weight 5 lbs.



NO. 23 COMBINATION

Weight 5 lbs.



NO. 3 TRACK GAUGE

Weight 6 lbs.

### ALDON #PG-2 STEEL PIPE TRACK GAUGE

This sturdy, all-steel track gauge is made to conform to AREA Plan #20-52. Middle section made of double strength steel pipe with steel fittings at both ends. Fittings have recesses to permit gauging on even heavily runover rail. Track gauge is insulated. Also available for narrow gauge track.  
Weight: 19 lbs.



### ALDON #SL-2 PINE STEP TRACK LEVEL

Made of carefully chosen clear pine with two coats of clear lacquer, machined, heat-treated aluminum "steps" in  $\frac{1}{2}$ " increments (14 steps), convenient hand hole provided. Comes with adjustable AREA approved  $57\frac{1}{2}$ " radius vial.  
Weight: 16 lbs.



Easy to read elevation rod with  $\frac{1}{8}$  inch graduations from 0 to 7 inches moves quickly up or down upon thumb pressure release of spring tension or can be firmly locked at any desired position. Elevation rod slips inside of tube for complete protection against loss or damage when not in use. Rail stop is provided at end opposite the elevation rod.

Level is insulated and is available with  $22\frac{1}{2}$  inch radius adjustable vial or AREA approved adjustable top plate assembly fitted with  $57\frac{1}{2}$  inch radius barrel ground vial. Unless otherwise specified on order, the  $22\frac{1}{2}$  inch radius vial will be furnished.

Low center of gravity retards tipping when in use as caused by wind or vibrations from passing trains on adjacent tracks.

Replacement Top Plate Assemblies available.

## TRACK GAUGE

A sturdy well balanced lightweight tool constructed of heat treated square extruded aluminum alloy tube with aluminum alloy end castings of approved AREA design with guard rail spacer lug.

Gauge is insulated and built to withstand rough handling.

# OPEN HEARTH CARBON TRACK TOOLS

## Double Point Clay Pick No. 5-E



High carbon steel. No. 6 eye. Slip-on type handle.

Weight	Length
7 lbs.	25"

Five to a shipping carton.

## A.R.E.A. Claw Bar



Weight	Length	Spike Size	A.R.E.A. Plan	Pcs. Per Std. Pkg.
27 lbs.	60"	3/4" or 5/8"	No. 11-62	2

## Diamond Point Lining Bars No. 42



Weight	Length	Stock Size	A.R.E.A. Plan
18 lbs.	60"	1 1/4"	No. 5
26 lbs.	66"	1 1/2"	No. 5

## Full Head Adze No. 13A



Slip-on type handle.

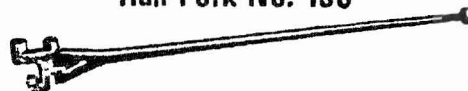
Weight	Length	Eye No.	Eye Size	Handle Length	Size Blade or Bit	A.R.E.A. Plan
6 lbs.	12"	11	1 3/4" x 2"	34"	4" x 9"	No. 12-62

## 4 Knob Spike Puller



Weight	Length	Max. Jaw Opening	A.R.E.A. Plan
2 1/2 lbs.	12"	3/4"	No. 9

## Rail Fork No. 158



Weight	Length	A.R.E.A. Plan
13 lbs.	40"	No. 10-62

## Bell Pattern Spike Maul No. 101



Wgth.	Lgth.	Eye No.	Eye Size	Handle Length	Small Face	Large Face	A.R.E.A. Plan
10 lbs.	15"	2	1" x 1 3/8"	36"	1 1/4"	1 5/8"	No. 3 Design 2

## "V" Tamping Pick No. 10F



Weight	Length	Eye No.	Handle Length	A.R.E.A. Plan
8 lbs.	24 1/2"	6	36"	No. 2

## Round Track Punch No. 156

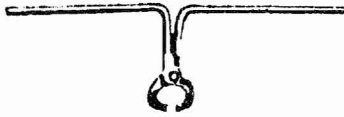


Weight	Lgth.	Eye No.	Eye Size	Handle Length	Size Punch	A.R.E.A. Plan
5 1/2 lbs.	13"	3	3/4" x 1 3/8"	24"	1 1/16" Rd.	No. 19

## STEEL TRACK TOOLS

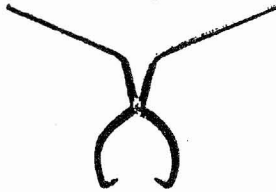
**CAUTION:** Always wear safety goggles when using track tools. Do not stand or jump on handles. Do not use extensions or "cheaters" on handles.

### Rail Tong No. 151



Weight	Distance across handles	Max. Jaw Opening	A.R.E.A. Plan	Pcs. Per Std. Pkg.	Item No.
18 lbs.	44"	3 3/4"	No. 6	2	06301

### Timber Tong No. 152



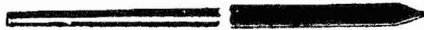
Weight	Distance across handles	Max. Jaw Opening	A.R.E.A. Plan	Pcs. Per Std. Pkg.	Item No.
12 lbs.	41 3/4"	15 1/2"	No. 8	4	06302

### One Man Tie Tong No. 152A



Weight	Max. Jaw Opening	A.R.E.A. Plan	Pcs. Per Std. Pkg.	Item No.
10 lbs.	15 1/2"	No. 7	4	06303

### Wedge Point Crowbars No. 40



### Pinch Point Crowbars No. 41



High carbon steel. Smooth taper, roll forged.

Weight	Length	Stock
18 lbs.	60"	1 1/4"
22 lbs.	64"	1 3/8"
* 26 lbs.	66"	1 1/2"

\* 26 lbs. size heat treated.

## ALLOY Track Chisel No. 160AX



Wgt.	Lgth.	Eye No.	Eye Size	Handle Length	Size Blade or Bit	A.R.E.A. Plan
5 1/2 lbs.	10 1/2"	3	3/4" x 1 3/8"	24"	1 3/8"	No. 17 Design 2

### Single End Track Wrenches No. 153



Weight	Length	Max. Jaw Opening	Size Bolt	A.R.E.A. Plan
8 lbs.	30"	1 3/16"	3/4"	No. 4
10 lbs.	36"	1 1/2"	7/8"	No. 4
12 lbs.	42"	1 11/16"	1"	No. 4
14 lbs.	48"	1 7/8"	1 1/8"	No. 4
16 lbs.	48"	2 1/16"	1 1/4"	No. 4
18 lbs.	54"	2 3/4"	1 3/8"	No. 4

### Double End Track Wrenches No. 154



Weight	Length	Max. Jaw Opening	Size Bolt	A.R.E.A. Plan
12 lbs.	42"	1 1/2" - 1 11/16"	7/8" - 1"	No. 4
14 lbs.	48"	1 11/16" - 1 7/8"	1" - 1 1/8"	No. 4
15 lbs.	48"	1 7/8" - 2 1/16"	1 1/8" - 1 1/4"	No. 4
16 lbs.	48"	2 1/16" - 2 1/4"	1 1/4" - 1 3/8"	No. 4

## standard flags

When ordering, please specify type, number and quantity of each flag.



BF-1 12" x 15"  
(305 x 381mm)



BF-2 11" (279mm)  
diameter



BF-3 12" x 15"  
(305 x 381mm)

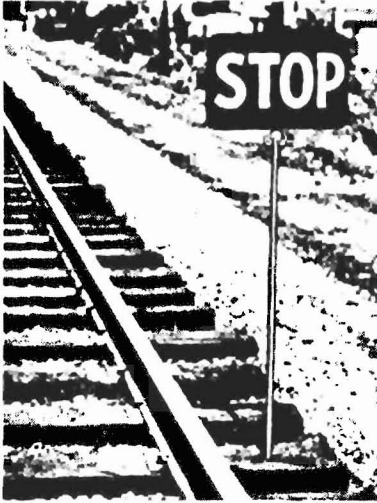


BF-4 12" x 15"  
(305 x 381mm)

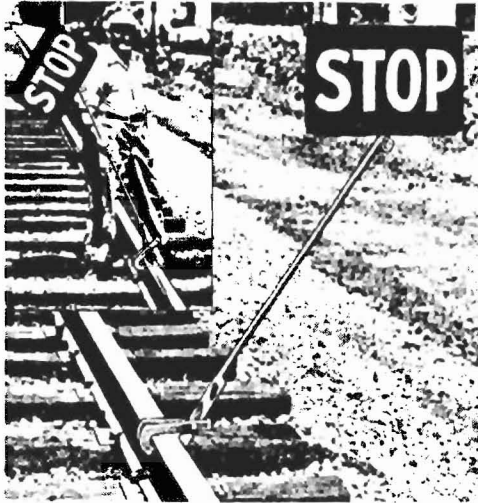
Specifications subject to change without notice.

# high visibility blue flags

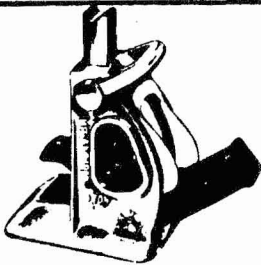
**MODEL BFS** Durable blue flag mounted to a sharp, pointed staff for rapid setting by stabbing it into ties or ground. Weight is 6 lbs. (3kg).



**MODEL BFC** Gravity lock scissors clamp holds flag securely. Effortless installation by simple swing positioning. Weight is 9 lbs. (4kg).



**MODEL BFP** Sturdy, hinged warning flag for permanent installation. Hinged design allows the flag to be laid flush with the ground when not in use and then easily raised to an upright position and automatically locked. Provisions are made to padlock the sign in either the raised or lowered position. Pivoting flag construction permits mounting inside or outside of either rail and readability from either direction. Weight is 17 lbs. (8kg).



## Single acting trip · Aluminum and Malleable

**15 TONS**—Low height, single-acting, trip lowering ratchet jack with broad toe foot lift ( $2\frac{1}{2}'' \times 3''$ ), bale handle and thumb guard. Single square socket without lining bar. Round socket and wooden lever  $2\frac{7}{16}'' \times 48''$  supplied at extra cost. Model 517-BA weighs 33% less than 517-B.



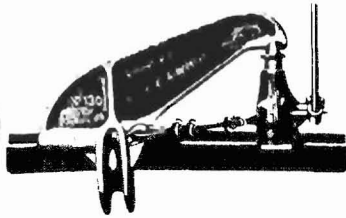
## Single acting trip · Aluminum

**15 TONS**—Single-acting, trip lowering jack with foot lift and thumb guard. Single square socket, without lining bar. Round socket and wooden lever supplied at extra cost. This is same jack as No. 117 except it weighs 33% less because housing is made of strong aluminum alloy.



## Double acting trip · Malleable

**15 TONS**—Double-acting, trip lowering ratchet jacks with foot lift. Single square socket without lining bar. Round socket and wooden bar  $2\frac{7}{16}'' \times 48''$  supplied at extra cost. Can be raised on both up and down strokes. Hand set levers for trip are plainly marked, for safety.



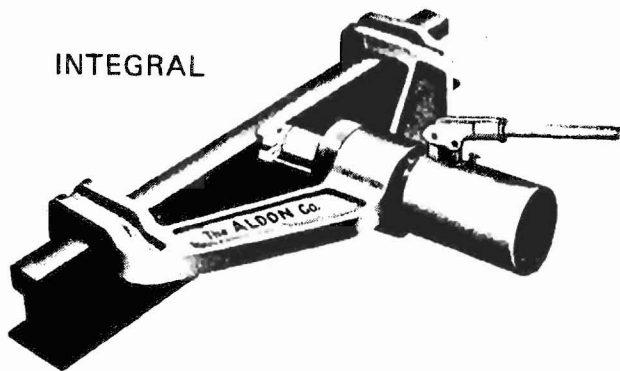
### JACK TYPE RAIL BENDER

Model 130 Rail Bender is available in either 25 or 35 Ton capacities. Bends rail cold. Designed for years of service. Maximum bend 5½".

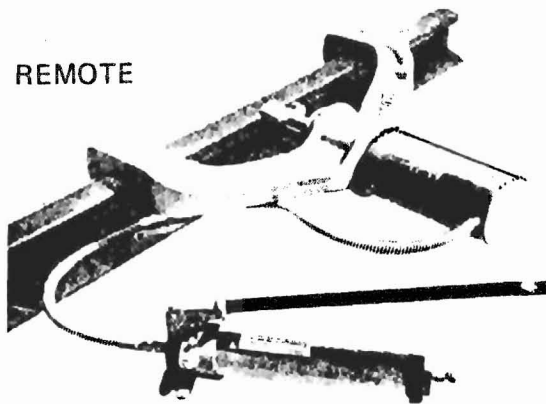
# RAIL BENDERS

## HYDRAULIC

### INTEGRAL



### REMOTE



### JIM CROW



ALDON HYDRAULIC RAIL BENDERS are of the double hook type with powerful hydraulic unit so placed to give direct 90 degree pressure against rail head between hooks. No screws to wear. Underlipped hooks with convex bearing surfaces to prevent crawling off rail, reducing friction to the minimum.

Designed for easy fast economical service in mining and industrial fields.

DO NOT USE OPERATING BAR  
OTHER THAN FURNISHED

SIZE	FOR RAILS	WEIGHT
No. 2-H	60 to 80 lbs.	138 lbs.
No. 3-H	40 to 60 lbs.	95 lbs.
No. 4-H	25 to 40 lbs.	85 lbs.

ALDON HYDRAULIC RAIL BENDER has the double hook design with large 50 ton ram and remote pump. Big power reduces effort on the handle and reduces wear on the unit. Cuts down-time.

SIZE	FOR RAILS	WT. EACH
No. 2-H-50	60 - 85 lbs.	170 lbs.

SIZE	FOR RAILS	WT. EACH
No. 2	75 to 100 lbs.	100 lbs.
No. 3	50 to 75 lbs.	72 lbs.
No. 4	25 to 50 lbs.	58 lbs.
No. 5	12 to 25 lbs.	30 lbs.

**CAUTION:** CHECK TOOL EACH TIME FOR ABNORMAL WEAR AND FATIGUE. REPLACEMENT PARTS AVAILABLE. DO NOT STAND OR JUMP ON HANDLE. DO NOT USE EXTENSION OR "CHEATER" ON HANDLE.

NOT RECOMMENDED FOR USE ON HEAT TREATED OR SPECIAL SECTION RAILS.

# ALDON CAR PULLER



**ALDON CAR PULLERS GIVE EACH WORKER UP TO 6-TONS OF PULLING POWER**

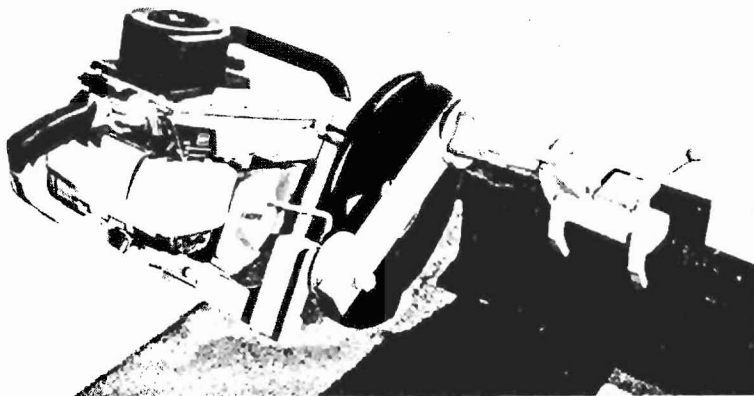
ALDON Car Pullers can be used wherever short haul, compact pulling power is required. Most applications involve railroad car handling. Snub-

bing the rope around the motor-driven capstan provides a worker up to 12,000 pounds of starting pull.

ALDON Car Pullers can be used for one-way or two-way rail car movement — see accessories list below.

(ALDON Car Pullers are recommended for use on level track only.) Properly sized manila maintained rope is recommended.

(NOTE: Mainline switch, controls, starter, wiring, foundation, and foundation bolts not included. Foundation requirements to be determined by local contractor.)



**RACINE**  
*has*  
"The tool for the job"  
**TRAK-KUT**

The Racine "Trak-Kut" is a lightweight portable abrasive type rail cutting saw using a 14" diameter reinforced cutting wheel.

The workhead is supported by a vee type clamp arm which clamps tightly to the rail head for accurate alignment and pivots on the clamp arm to allow an oscillating motion when cutting to gain faster penetration.

Up to 140# rail can be cut in one pass with a new wheel. When full capacity is reduced by normal wheel wear, additional cuts can be made by starting on one side of the rail then swinging the "Trak-Kut" over the rail in perfect alignment to complete the cut.

The engine workhead can be separated quickly from the clamp arm for easy transporting or for use as a hand held tool.

The 14" diameter Racine "Trak-Kut" abrasive wheels are expressly designed for use with the "Trak-Kut" machine and are recommended to obtain maximum performance.



# RAIL SAW

## DIMENSIONS:

20" x 22" x 36"

## WEIGHT:

190 pounds

## ENGINE:

Briggs & Stratton 2 $\frac{1}{4}$  HP  
Model 80202 air cooled 4 cycle

## ENGINE OPERATING SPEED:

2800 R.P.M. or 90-100  
blade strokes per minute

## IGNITION:

Flywheel magneto

## FUEL:

Regular gasoline

## STARTER:

Recoil type

## LUBRICATION:

Gear box—SAE 90  
5 oil cups—SAE 20  
2 oil holes—SAE 20  
Engine crankcase—SAE20

## STROKE:

6 inch

## CAPACITY:

Minimum height 80 lb. rail  
Maximum height 140 lb. rail

## BLADE:

14" x 1 $\frac{1}{4}$ " x .062"—6 teeth  
per inch Rail Saw Blade

## Save These Jobs for- Racine Rail Cutter

Cutting and fitting rails at interlocking plants, crossings and switches.

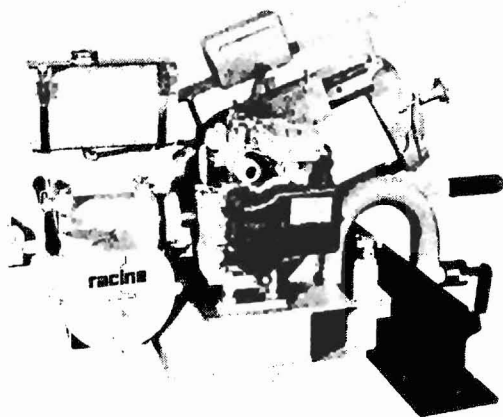
Closing of track in rail laying operations.

Accurate cutting of rails for insulated joints.

Correct staggering of joints.

Removing split or worn or battered rail ends.

Cutting out portions of wheel-burned rails and fissures.



Model 140

View showing adjustable back-up blocks for clamping.

# RAIL DRILL

## POWERFUL...FAST

The two and three-quarter horsepower four cycle gasoline engine drives the drill chuck at a 30 to 1 reduction. There is more than adequate power to drill holes through all rail web in one or two minutes. Under all conditions the drill bit is protected by the automatic release feature of the torque clutch. A quick acting drill holder provides easy changing of drills. When worn, drills may be moved ahead in the holder to utilize their full length.

## FEATURES AT A GLANCE

### DIMENSIONS:

21"x22"x41"

### WEIGHT:

165 pounds

### ENGINE:

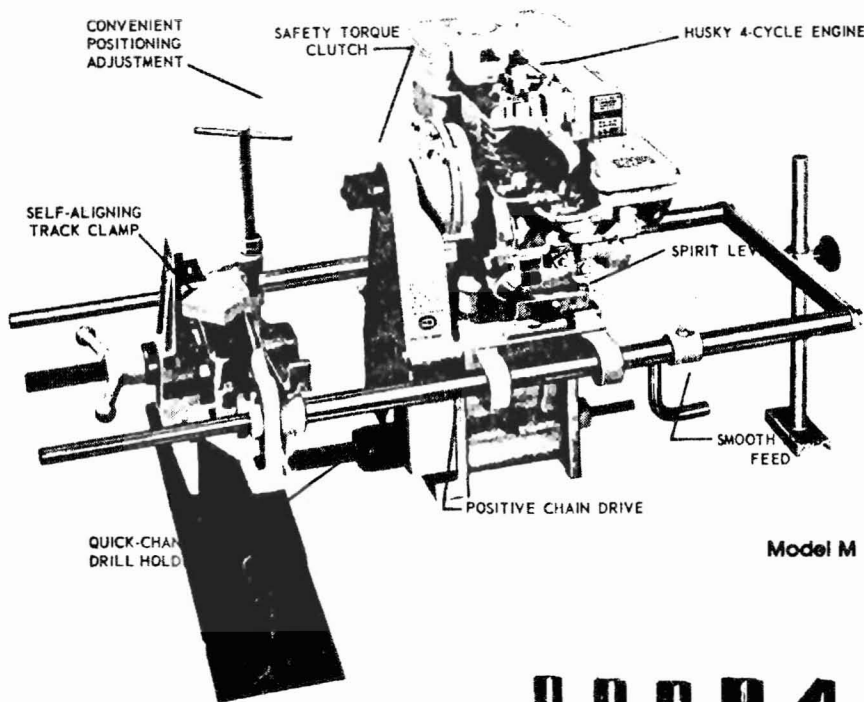
Briggs & Stratton 2¼ HP  
Model 80352 air cooled  
4 cycle with 6 to 1 gear  
reduction.

### FEED:

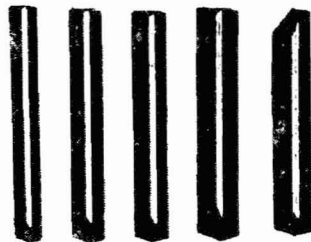
Manual Screw Feed.

### CAPACITY:

60# to 155# Rail.



Model M



### DRILL BITS

High speed Flat Bit with Flat Beaded Shank, available in single or double end. Constructed of long-life M-10 Moly Vanadium steel. Sizes from 13/16" up to 1 1/2", in 1/16" increments.

# DEFINITION OF TERMS

## Relating to Trackwork

**Alignment.** The horizontal location of a railroad as described by curves and tangents.

**Branch Line.** The secondary line or lines of a railway.

**Closure Rails.** The rails between the parts of any special trackwork layout, such as the rails between the switch and the frog in a turnout (sometimes called Lead Rails or Connecting Rails). Also the rails connecting the frogs of a crossing or of adjacent crossings, but not forming parts thereof.

**Compromise Rail.** A relatively short rail, the two ends of which are of different sections, corresponding with the sections of the rails to which they are to be joined. It provides the transition from one section to a different rail section.

**Compromise Joint (Rail).** A joint for uniting the abutting ends of contiguous rails of different sections, or of rails of the same section but of different joint drillings.

**Connecting Track.** Two turnouts with the track between the frogs arranged to form a continuous passage between one track and another intersecting or oblique track or another remote parallel track.

**Crossing (Track).** A structure used where one track crosses another at grade, and consisting of four connected frogs.

**Crossover.** Two turnouts with the track between the frogs arranged to form a continuous passage between two nearby and generally parallel tracks.

**Curve, Simple.** A continuous change in direction of alignment by means of an arc of a single radius.

**Curve, Degree of.** The angle subtended at the center of a simple curve by a 100 ft chord.

**Derail.** A track structure for derailing rolling stock in case of an emergency.

**Electric Railway (Track).** Electric Railway denotes trackwork which accommodates rolling stock: the wheels have smaller flanges and/or narrower treads. The motive power is immaterial.

**Elevation (of Curves) (Superelevation).** The vertical distance between the outer rail and the inner rail.

**Fastenings.** Joint bars, bolts and spikes.

**Fastenings, Auxiliary.** Nutlocks, spring washers, tie plates, rail braces and anti-creeping devices.

**Flangeway.** The open way through a track structure which provides a passageway for wheel flanges.

**Flangeway Depth.** The depth of the wheel flange passageway, or the vertical distance from the top of the tread surface to the top of the filler or separator introduced between the tread portion and the guard portion of a track structure.

**Flangeway Width.** The distance between the gauge line and the guard line of a track structure, which provides a passageway for wheel flanges.

**Flare.** A tapered widening of the flangeway at the end of the guard line of a track structure, as at the end of a guard rail or at the end of a frog or crossing wing rail.

**Flare Opening.** The distance between the gauge line and the guard line of a track structure at the wider end of the flare.

**Foot Guard.** A filler for the space between converging rails to prevent a person's foot from becoming accidentally wedged between the rails.

**Frog.** A track structure used at the intersection of two running rails to provide support for wheels and passageways for their flanges, thus permitting wheels on either rail to cross the other.

**Gauge (Track Tool).** A device by which the gauge of a track is established or measured.

**Gauge (of Track).** The distance between the gauge lines, measured at right angles. (The standard gauge is 4 ft 8 1/2 in.)

**Gauge Line.** The gauge line can be determined in two ways: (1) A line 5/8 in. below the top of the center of the running rail head, or (2) the corresponding location of tread portion of other trackwork along the side nearer the track center.

**Guard Rail.** A rail or other structure laid parallel with the running rails of a track. Used to prevent wheels from being derailed or to hold wheels in correct alignment to prevent their flanges from striking either the points of turnout, the crossing frogs or the points of switches.

**Insulation.** A device or material that prevents the flow of electric current in a track circuit from passing from one rail to the other or through switches and other track structures.

**Joint Bar.** A steel member embodying beam-strength and stiffness in its structural shape and material. Commonly used in pairs for the purpose of joining rail ends together, and holding them accurately, evenly and firmly in position with reference to surface and gauge-side alignment.

**Joint Drilling.** The spacing of holes in the ends of rails or other track structures to receive the bolts for the fastening of joint bars.

**Joint, Rail.** A fastening designed to unite the abutting ends of contiguous rails.

**Joint, Insulated.** A rail joint designed to arrest the flow of electric current from rail to rail by means of insulations, placed so as to separate the rail ends and other metal parts connecting them.

**Main Line.** The principal line or lines of a railway.

**Main Track.** A track extending through yards and between stations, upon which trains are operated by timetable or train order, or both, or the use of which is governed by block signals.

**Mate.** A track structure having a fixed or immovable point and used on the opposite side of the track from a tongue switch, as its companion piece. (A mate is termed "outside" or "inside" depending upon whether it is placed on the outside or inside of the curve, the "inside mate" being comparatively little used.)

**Passing Track.** A track which is auxiliary to the main track, for meeting or passing trains. Same as a siding.

**Rail, Track.** A rolled steel shape, commonly a T-section, designed to be laid end to end in two parallel lines on cross ties or other suitable supports to form a track for railway rolling stock.

**Slip Switch, Single.** A combination of a crossing with one right-hand and one left-hand switch and curve between them within the limits of the crossing and connecting the two intersecting tracks without the use of separate turnout frogs.

**Slip Switch, Double.** A combination of a crossing with two right-hand and two left-hand switches and the curved rails between them within the limits of the crossing, and connecting the two intersecting tracks on both sides of the crossing without the use of separate turnout frogs.

**Special Trackwork.** All rails, track structures and fittings, other than plain unguarded track, which are neither curved nor fabricated before laying.

**Spur.** A stub track diverging from a main or other track.

**Steam Railroad (Track).** Steam railroad denotes track for rolling stock which has wheels and treads substantially in agreement with AAR standard wheels. The motive power is immaterial.

**Switch.** A track structure used to divert rolling stock from one track to another.

**Switch, Split.** A switch consisting essentially of two movable point rails with the necessary fixtures. (For details see Split Switch Terms.)

**Switch, Spring.** A switch with automatic spring device incorporated in the operating mechanism. This device returns the points to their original positions after the trailing wheels have passed over the flanges.

# DEFINITION OF TERMS (continued)

**Heel End of Frog.** That end of a frog which is the farther from the switch, or the end which has both point rails or other running surfaces between the gauge lines.

**Heel Length.** The distance between the heel end and the half-inch point of a frog, measured along the gauge line.

**Heel Spread.** The distance between the gauge lines at the heel end of the frog.

**Throat of Frog.** The point at which the converging wings of a frog are closest together.

**Toe End of Frog.** The end of a frog which is nearer the switch or the end which has both gauge lines between the wing rails or other running surfaces.

**Toe Length.** The distance between the toe end and the half-inch point of a frog, measured along the gauge line.

**Toe Spread.** The distance between the gauge lines at the toe end of the frog.

**Wing Wheel Risers.** Raised portions provided on the top surfaces of the wings of a frog, more particularly when of manganese steel design, directly opposite the point and gradually sloping down to the general level of the running surface, thereby providing additional metal at those parts of the frog which usually wear out first, and also making the transverse contour conform more closely to that of the tread of a tapered wheel.

## GUARD RAIL TERMS

**Guard Rail (Frog).** A rail or other device to guide the wheel flange so that it is kept clear of the point of the frog.

**Guard Rail (Switch).** A rail or other track structure laid parallel with the running rail ahead of a split switch and forming a flangeway with the running rail, to hold the wheels of rolling stock in correct alignment when approaching the switch.

**Adjustable Separator.** A metal block of two or more parts acting as a filler between the running rail and the guard rail and so designed as to provide varying widths of flangeway.

**Guard Rail Brace.** A metal shape designed to fit the contour of the side of the guard rail and extend over the tie. Has provisions for fastening in order to restrain the moving or tilting of the guard rail away from the running rail.

**Guard Rail Brace, Adjustable.** A guard rail brace which may be adjusted laterally with respect to the rail, to vary the distance between the guard rail and the running rail.

**Guard Rail Clamp.** A device consisting of a yoke and fastenings designed to engage the running rail and the guard rail and hold them in correct relation to each other.

## CROSSING TERMS

**Bolted Rail Crossing.** A crossing in which all the running surfaces are of rolled rail, the parts being held together with bolts.

**Manganese Steel Insert Crossing.** A crossing in which a manganese steel casting is inserted at each of the four intersections, being fitted into rolled rails and forming the points and wings of the crossing frogs.

**Solid Manganese Steel Crossing.** A crossing in which the frogs are of the solid manganese steel type.

**Single Rail Crossing.** A crossing in which the connections between the end frogs and the center frogs consist of running rails only.

**Two-Rail Crossing.** A crossing in which the connections between the end frogs and the center frogs consist of running rails and guard rails.

**Three-Rail Crossing.** A crossing in which the connections between the end frogs and the center frogs consist of running rails, guard rails and easer rails.

**Crossing Plates.** Plates interposed between a crossing and the ties or other timbers to protect the ties and to better support the crossing by distributing the loads over larger areas.

**Center Frogs.** The two frogs at the opposite ends of the short diagonal of a crossing.

**End Frogs.** The two frogs at the opposite ends of the long diagonal of a crossing.

**Easer Rail (or Easer).** A rail placed with its head along the outside and close up to the head of the running rail and sloped at the ends to provide a bearing for the over-hanging portion of hollowed-out treads of worn wheels.

**Guard Rail.** A rail placed parallel with the running rail, with the flangeway between them.

**Knuckle Rail.** A bent rail, or equivalent structure, forming the obtuse point against which the movable center points of a movable point crossing or slip switch rest when set for traffic.

**Movable Center Point.** One of the movable tapered rails of a movable point crossing or slip switch.

**Reinforced Rail.** A bent rail placed with its head along the outside of and close up to the head of a knuckle rail to strengthen it and to act as an easer rail; or a piece of rail similarly applied to a movable center point.

**Running Rail.** The rail or surface on which the tread of the wheel bears.

## TURNOUT TERMS

**Turnout.** An arrangement of a switch and a frog with closure rails, by means on which rolling stock may be diverted from one track to another.

**Curved Lead.** The distance between the actual point of the switch and the half-inch point of the frog, measured on the outside gauge line of the turnout.

**Lead.** The distance between the actual point of the switch and the half-inch point of the frog.

**Lead (Actual).** The length between the actual point of the switch and the half-inch point of the frog measured on the line of the parent track.

**Lead (Theoretically).** The distance from the theoretical point of a uniform turnout curve to the theoretical point of the frog, measured on the line of the parent track.

**Lead Curve.** The curve in the turnout interposed between the switch and the frog.

**Turnout Number.** The number corresponding to the frog number of the frog used in the turnout.

# DEFINITION OF TERMS (continued)

**Switch, Tongue.** A switch piece consisting essentially of a movable tongue with a suitable enclosing and supporting body structure, designed for use on one side of the track, while on the other side there is used either a mate or another tongue switch. (A tongue switch is termed "inside" or "outside" depending on whether it is placed on the inside or on the outside of the curve, the "outside tongue switch" being comparatively little used.)

**Switch Point Derail.** A derail consisting essentially of a split switch point with the necessary fixtures.

**Switch Stand.** A device for the manual operation of switches, or of movable center points.

**Tangent.** Any straight portion of a railway alignment.

**Tie Plate.** A plate interposed between a rail or other track structure and a tie.

**Track.** An assembly of rails, ties and fastenings over which cars, locomotives and trains are moved.

**Track Bolt.** A bolt with a button head and oval or elliptical neck and a threaded nut designed to fasten together rails and joint bars.

**Turnout.** An arrangement of a switch and a frog with closure rails, by means of which rolling stock may be diverted from one track to another.

**Wye.** A triangular arrangement of tracks on which locomotives, cars and trains may be turned.

## SPLIT SWITCH TERMS

**Split Switch with Uniform Risers.** A split switch in which the switch rails have a uniform elevation on riser plates for the entire length of the switch. Since there is no heel slope, the point rail rise runs off the back of the switch in the closure rails.

**Split Switch with Graduated Risers.** A split switch in which the switch rails are gradually elevated by means of graduated riser plates until they reach the required height above the stock rail, and therefore have a heel slope.

**Manganese Tipped Switch.** A split switch in which the head of one or both of the switch rails is cut away in the point portion and manganese steel pieces fastened to the rail to form the point.

**Insulated Switch.** A switch in which the fixtures, principally the gauge plates and the switch rods connecting or reaching from one rail to the opposite rail, are provided with insulation so that the electric track circuit will not be shunted.

**Heel of Switch.** That end of a switch rail which is the farther from its point, and nearer the frog.

**Heel Spread.** The distance, at the heel, between the gauge line of a switch rail and the gauge line of its stock rail. (This has been standardized at  $6\frac{1}{4}$  in. for straight switches.)

**Heel Slope.** The inclination produced by graduated risers in that part of the switch which reduces the elevation (as the height of the risers decreases) toward the heel of the switch.

**Point of Switch (Actual).** That end of the switch rail which is the farther from the frog; the point where the spread between the gauge lines of the stock rail and the switch rail is sufficient for a practicable switch point.

**Point of Switch (Theoretical) or Vertex.** The point where the gauge line of the switch rail, if produced, would intersect the gauge line of the stock rail.

**Point Rail, Switch Rail or Switch Point.** The tapered rail of a split switch.

**Planing, Bottom.** The cut planed at an angle on the bottom of the base of the switch rail from the point and towards the heel to allow the switch rail to rest on the top of the base of the stock rail when the switch rail is closed.

**Planing, Side.** The cuts made on the sides of the head of the switch rail to form the taper.

**Planing, Top.** The cut made on the top of the head of the switch rail from the point and approximately to the head separation.

**Planing, Chamfer Cut.** The vertical beveling of the gauge side of the switch point to produce a sharp edge, so as to prevent wheel flanges from striking the point.

**Rail Brace (Switch).** A metal shape designed to fit the contour of the side of the stock rail and extend over the switch plate, with provision for fastening through the plate to the tie, to restrain the movement of the stock rail.

**Rail Brace, Adjustable (Switch).** A rail brace which may be adjusted laterally with respect to the stock rail, to compensate for variation in the dimensions of the rail and to permit adjustment for wear.

**Stock Rail.** A running rail against which the switch rail operates.

**Stock Rail Bend.** The bend or set which must be given the stock rail at the vertex of a switch to allow it to follow the gauge line of the turnout.

**Switch Angle.** The angle included between the gauge lines of the switch rail at its point and the stock rail.

**Throw of Switch.** The distance through which the points of switch rails are moved sidewise, measured along the center line of the No. 1 switch rod or head rod.

## FROG TERMS

**Bolted Rigid Frog.** A frog built essentially of rolled rails, with fillers between the rails, and held together with bolts.

**Spring Rail Frog.** A frog having a movable wing rail which is normally held against the point rail by springs, thus making an unbroken running surface for wheels using one track. The flanges of wheels on the other track force the movable wing rail away from the point rail to provide a passageway.

**Railbound Manganese Steel Frog.** A frog consisting essentially of a manganese steel body casting fitted into and between rolled rails and held together with bolts.

**Solid Manganese Steel Frog.** A frog consisting essentially of a single manganese steel casting.

**Seft-Guarded Frog (Flange Frog).** A frog provided with guides or flanges, above its running surface, which contact the tread rims of wheels for the purpose of safely guiding their flanges past the point of the frog.

**Frog Angle.** The angle formed by the intersecting gauge lines of a frog.

**Frog Number.** One-half the cotangent of one-half the frog angle, or the number of units of center line length in which the spread is one unit.

**Frog Point.** That part of a frog lying between the gauge lines extending from their intersection toward the heel end.

(a) Theoretical Point

The point of intersection of the gauge lines of a frog.

(b) Half-Inch Point

A point located at a distance from the theoretical point towards the heel equal in inches to one-half the frog number, and at which the spread between the gauge lines is one-half inch. It is the origin from which measurements are usually made.

# pipe

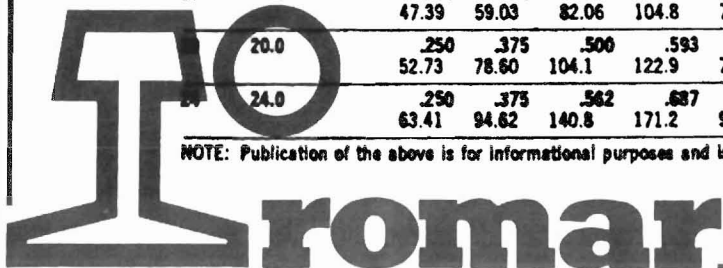
Romar Pipe Division can supply pipe for any job requirement and any length pipe. Romar actually specializes in extra long heavy wall pipe. We stock structural gauge, A53, and all A.P.I. specification pipe. Romar is qualified to fabricate pipe in any length the customer may require. The pipe is X-ray inspected and can be shipped by barge to the customer's job site. We're located near The Port of Houston and if necessary can even meet the customer's ships.

Our stock includes large O.D. up to 48" x 2" wall thickness so when you need pipe call us.

## ASA PIPE SCHEDULES

HEAVY TYPE: Wall Thickness in inches													LIGHT TYPE: Wt. per Ft. in pounds			
Pipe Size	O.D. in inches	5	10	20	30	40	Std.	60	80	E.H.	100	120	140	160	Dble. E.H.	
1	1.315	.065 .8678	.109 1.404			.133 1.679	.133 1.679		.179 2.172	.179 2.172				.250 2.844	.358 3.659	
1 1/4	1.660	.065 1.107	.109 1.806			.140 2.273	.140 2.273		.191 2.997	.191 2.997				.250 3.765	.382 5.214	
1 1/2	1.900	.065 1.274	.109 2.085			.145 2.718	.145 2.718		.200 3.631	.200 3.631				.281 4.859	.400 6.408	
2	2.375	.065 1.604	.109 2.638			.154 3.653	.154 3.653		.218 5.022	.218 5.022				.343 7.444	.436 9.029	
2 1/2	2.875	.083 2.475	.120 3.531			.203 5.793	.203 5.793		.276 7.661	.276 7.661				.375 10.01	.552 13.70	
3	3.5	.083 3.029	.120 4.332			.216 7.576	.216 7.576		.300 10.25	.300 10.25				.437 14.32	.600 18.58	
3 1/2	4.0	.083 3.472	.120 4.973			.226 9.109	.226 9.109		.318 12.51	.318 12.51					.636 22.85	
4	4.5	.083 3.915	.120 5.613			.237 10.79	.237 10.79	.281 12.66	.337 14.98	.337 14.98		.437 19.01		.531 22.51	.674 27.54	
4 1/2	5.0					.247 12.53				.355 17.61					.710 32.53	
5	5.563	.109 6.349	.134 7.770			.258 14.62	.258 14.62		.375 20.78	.375 20.78		.500 27.04		.625 32.96	.750 38.55	
6	6.625	.109 7.585	.134 9.289			.280 18.97	.280 18.97		.432 28.57	.432 28.57		.562 36.39		.718 45.30	.864 53.16	
7	7.625					.301 23.57				.500 38.05					.875 63.08	
8	8.625	.109 9.914	.148 13.40	.250 22.36	.277 24.70	.322 28.55	.322 28.55	.406 35.64	.500 43.39	.500 43.39	.593 50.87	.718 60.93	.812 67.76	.906 74.69	.875 72.42	
9	9.625					.342 33.90				.500 48.72						
10	10.75	.134 15.19	.165 18.70	.250 28.04	.307 34.24	.365 40.48	.365 40.48	.500 54.74	.593 64.33	.500 54.74	.718 76.93	.843 89.20	1.000 104.1	1.125 115.7		
11	11.75					.375 45.55				.500 60.07						
12	12.75	.165 22.18	.180 24.20	.250 33.38	.330 43.77	.406 53.53	.375 49.56	.562 73.16	.687 88.51	.500 65.42	.843 107.2	1.000 125.5	1.125 139.7	1.312 160.3		
14	14.0		.250 36.71	.312 45.68	.375 54.57	.437 63.37	.375 54.57	.593 84.91	.750 106.1	.500 72.09	.937 130.7	1.093 150.7	1.250 170.2	1.406 189.1		
16	16.0		.250 42.05	.312 52.36	.375 62.58	.500 82.77	.375 62.58	.656 107.5	.843 136.5	.500 82.77	1.031 164.8	1.218 192.3	1.437 223.5	1.593 245.1		
18	18.0	.250 47.39	.312 59.03	.437 82.06	.562 104.8	.750 104.8	.375 70.59	.937 138.2	.937 170.8	.500 93.45	1.156 208.0	1.375 244.1	1.562 274.2	1.781 308.5		
20	20.0	.250 52.73	.375 78.60	.500 104.1	.593 122.9	.750 122.9	.375 78.60	.812 166.4	1.031 208.9	.500 104.1	1.280 256.1	1.500 296.4	1.750 341.1	1.968 379.0		
24	24.0	.250 63.41	.375 94.62	.562 140.8	.687 171.2	.750 171.2	.375 94.62	.968 238.1	1.218 296.4	.500 125.5	1.531 367.4	1.812 429.4	2.062 483.1	2.343 541.9		

NOTE: Publication of the above is for informational purposes and is not necessarily an indication of our ability to supply all of the items shown.




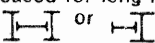

# STEEL PIPE A.P.I. 5L-B AND X-GRADES, API-2B

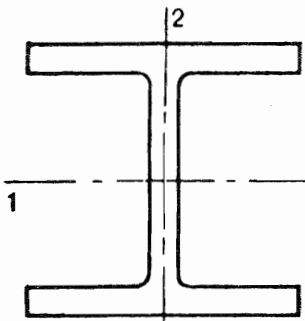
OD	Wall	Wt./Ft.	OD	Wall	Wt./Ft.	
24	.325	94.62	36	.375	142.70	
	.500	125.49		.500	189.60	
	.625	156.05		.625	236.16	
	.750	186.26		.750	282.39	
	.875	216.13		.875	328.29	
	1.000	245.67		1.000	373.83	
	1.250	303.75		1.250	463.98	
26	.375	102.63	42	1.375	508.54	
	.500	136.17		1.500	552.76	
	.625	169.40		1.750	640.22	
	.750	202.28		2.000	726.34	
	.875	234.82		48	.375	166.73
	1.000	267.04			.500	221.64
	1.250	330.46			.625	276.22
30	1.375	361.67	.750	330.46		
	.375	118.65	1.000	437.94		
	.500	157.53	1.250	544.09		
	.625	196.11	1.500	648.90		
	.750	234.33	2.000	845.52		
	.875	272.21	48	.375	190.76	
	1.000	309.76		.500	253.68	
1.250	383.86	.625		316.27		
1.375	420.41	.750		378.52		
1.500	456.63	1.000		502.03		
33	1.750	528.06	1.250	624.20		
	.500	173.57	1.375	684.78		
	.625	216.13	1.500	745.03		
	.750	258.36	1.750	864.53		
34	1.000	341.81	2.000	982.69		
	.625	222.81				
	.750	266.37				
	1.000	352.49				
	1.250	437.27				



## STEEL H-PILES

Section Index	Nominal Size	Weight Per Foot	Area of Section	Depth of Section	Flange		Web Thickness	AXIS 1			AXIS 2		
					Width	Thick-ness		l	S	r	l	S	r
	In.	Lbs.	In. <sup>2</sup>	In.	In.	In.	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
CBP 145	14 x 14 1/2	117	34.44	14.23	14.885	.805	.805	1228.5	172.6	5.97	443.1	59.5	3.59
		102	30.01	14.03	14.784	.704	.704	1055.1	150.4	5.93	379.6	51.3	3.56
		89	26.19	13.86	14.696	.616	.616	909.1	131.2	5.89	326.2	44.4	3.53
		73	21.46	13.64	14.586	.506	.506	733.1	107.5	5.85	261.9	35.9	3.49
CBP 124	12 x 12	74	21.76	12.12	12.217	.607	.607	566.5	93.5	5.10	184.7	30.2	2.91
		53	15.58	11.78	12.046	.436	.436	394.8	67.0	5.03	127.3	21.2	2.86
CBP 103	10 x 10	57	16.76	10.01	10.224	.564	.564	294.7	58.9	4.19	100.6	19.7	2.45
		42	12.35	9.72	10.078	.418	.418	210.8	43.4	4.13	71.4	14.2	2.40
CBP 83	8 x 8	36	10.60	8.03	8.158	.446	.446	119.8	29.9	3.36	40.4	9.9	1.95

Radius of Gyration  $r$  can readily be increased for long length piles by welding continuous plates across flanges thus  or by combining wide flange sections thus  or 



We also can be extremely competitive in steel sheet piling manufactured with low alloy, nickel and copper corrosion resistant minimum 50,000 yield steel and also ASTM A-572, 50,000 minimum yield.

bearing pile locations.

Oakland, California, Port Kearney, New Jersey, Bridge Port, Conn.