ENGINEERING CLASS SPROCKETS

SPROCKET SPECIFICATIONS

SPROCKET TABLES

The Sprocket Tables in this catalog have been designed for easy reading. Listed is a partial interchange, numbers of teeth, type construction, pitch diameters and maximum bores. Standard Hub Data for both Solid and Splits are found within their corresponding catalog section.

CHARACTERISTIC OR FEATURE	STANDARD	SPECIAL
Sprocket Type	The type or types listed as available for a sprocket of a particular number of teeth in the Sprocket Tables. These six types are listed: Plate Center — Hunting Tooth Spoked Arm — Segmental Rim Chain Saver — Wide Flange	Any type other than listed types in Sprocket Tables that can meet the limitations of size and/or work load. Consult B/W Engineering Service **If Spoked Arm is listed in Sprocket Data Table, Plate Center can be furnished at additional charge.**
Split Construction	Not Standard	All split sprockets
Hub Type	Type listed as available for a sprocket of a particular number of teeth in the Sprocket Tables. One of these four types: A B C C Offset	Any type other than listed in Sprocket Table for a particular sprocket of a specific number of teeth.
Keyseating	Standard keyway as specified in table "Standard Keyways and Setscrews" (page 219)	1) Extra Keyseat 2) Keyseating in definite location 3) Keyseating in line or in pairs
Setscrews	One pair furnished	More than one pair
Boring	Up to and including the standard bore sizes that are listed in the sprocket tables. Tolerances are maintained as per the Table of Standard Bore Tolerances.	1) Oversize bores 2) Core-to-bore
Machine Facing Hubs	One side if keywayed Both sides if plain bored.	Machine facing hubs to exact dimensions
Hub Lengths	Length as listed in Sprocket Hub Tables	1) Longer than standard length will be provided at additional charge.
Shear Pin Hubs	Not Standard	All shear pin hubs
Bronze Bushings	Not Standard	All bronze bushings

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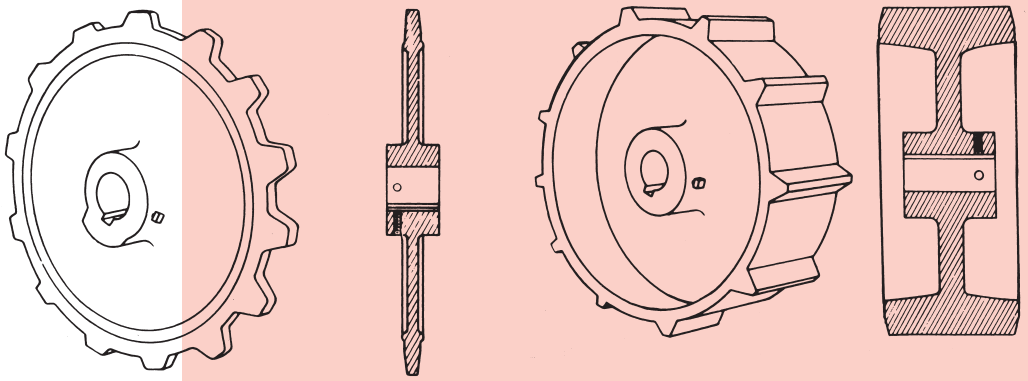
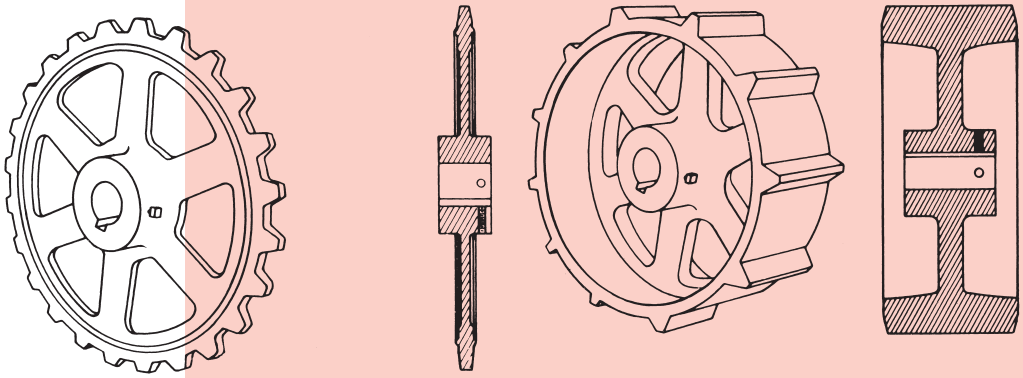
PLATE CENTER SPROCKETS

Sprockets are furnished in two basic types . . . Plate center and Spoked Arm. Plate centers are generally used on smaller sprockets whose size prohibits the use of spoked arms and on drives and conveyors which are subjected to frequent shock loads. They are also used when the maximum allowable chain pull is greater than that which Spoked Arm Sprockets can withstand.



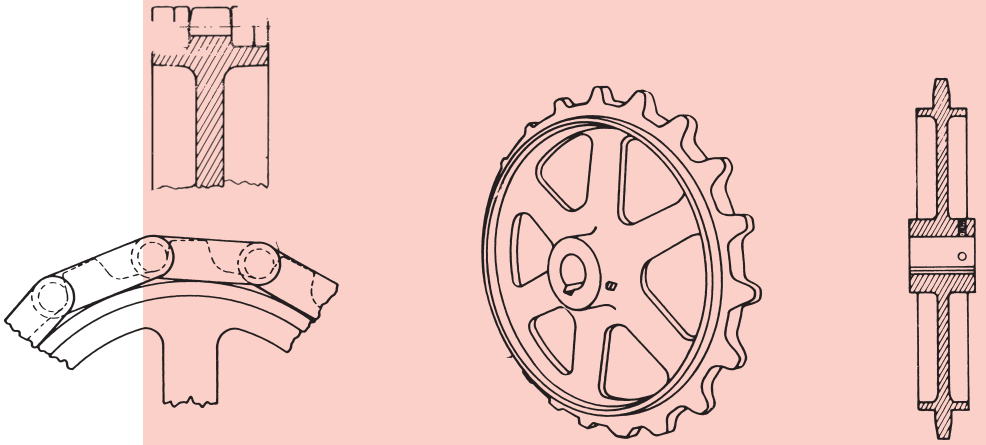
SPOKED ARM SPROCKETS

Spoked arms are found on large diameter sprockets. They are used to reduce weight and facilitate handling.



CHAIN SAVER SPROCKETS

Chain Saver sprockets give added life to chain because of the special flange construction on the rim. The chain side bars rest on the flange as chain wraps around the sprocket, keeping the chain on the true pitch line and distributing wear over a greater contact area.



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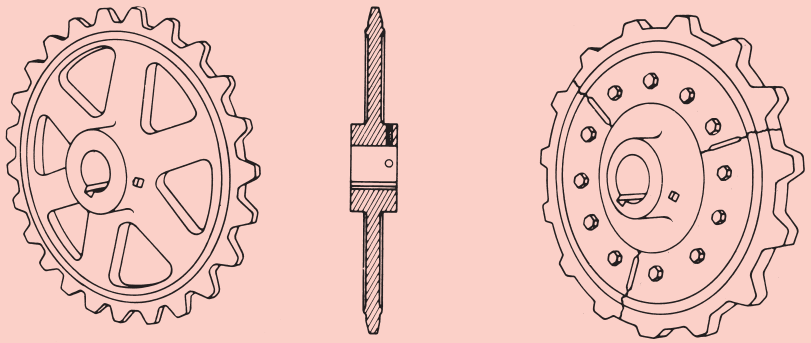
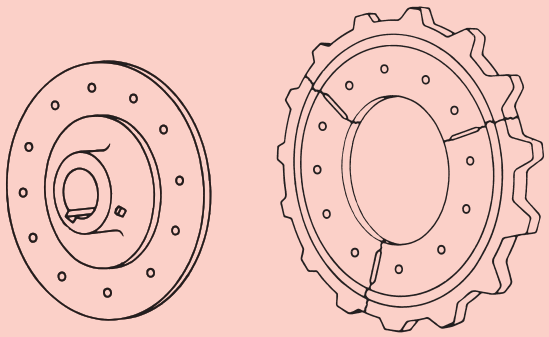
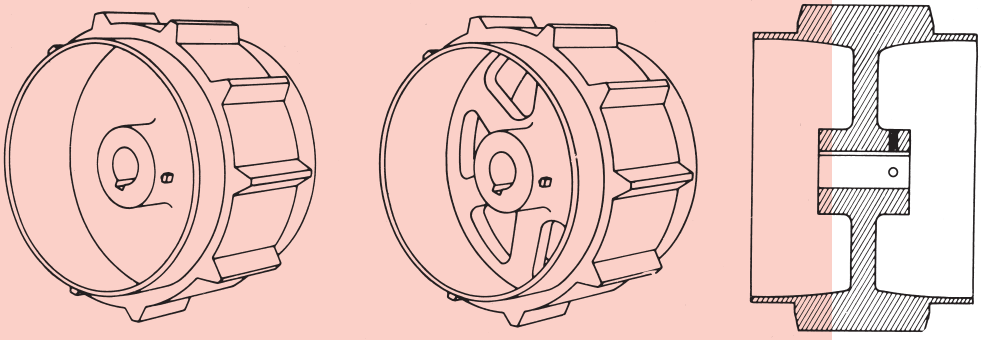






SPROCKET FEATURES

HUNTING TOOTH SPROCKETS

Hunting Tooth Sprockets last longer than ordinary sprockets and operate on this principle: Hunting Tooth Sprockets have an odd number of teeth and are half the pitch of the chain. Thus, every time the sprocket makes a revolution, the chain links engage a new set of teeth, forward of the previously engaged set. Each tooth makes contact with the chain only half as many times as it would on a regular sprocket, thus doubling the life of the sprocket.

SEGMENTAL RIM SPROCKETS

Segmental Rim Sprockets are designed to eliminate costly shut down time during installation and adjustment. They consist of a removable segmented rim and a solid or split body which are bolted together.

To obtain extra wear from this type sprocket, after considerable use, the rim sections may be simply reversed, so that the chain makes contact with the opposite sides of the teeth. Bodies or entire sprockets may be replaced without removing shaft or bearings, making this type of sprocket very desirable economically because of the savings in labor and shut-down time.

HUNTING TOOTH CHAIN SAVER SPROCKETS

This type of sprocket combines the special features of the two preceding types, providing additional life to both the chain and the sprocket.

WIDE FLANGE SPROCKETS

These Sprockets are used in many industries such as the lumber and paper industries as sprockets for the delivery end of conveyors. The wide flange or side extension acts as a guard and helps keep material from being wasted as it comes off the end of the conveyor.

ENGINEERING CLASS SPROCKETS

SPROCKET FEATURES

SPLIT CONSTRUCTION

Both Spoked Arm and Plate Center sprockets are available with split construction. Split construction is often specified for installations when it is desirable or advantageous to mount or remove the sprocket from the shaft without disturbing either the shaft or the bearings. The method now used in mounting a split wheel to the shaft gives increased effectiveness in holding.

Split wheels are cast in one piece, machined, and split so that when bolted together the sprocket forms a solid construction. Split wheels are furnished with hubs on one side, hubs offset, or C hubs. Rim lugs are employed when the diameter of the wheel makes them necessary. Since wheels are cast in one piece and then split, it is necessary to give bore size required if ordered in core-to-bore special construction.

HUB TYPES

Sprockets are supplied in various hub types . . . each one designed for a specific need. The following defines and illustrates each of the basic hub types.

TYPE "A"

When a sprocket is described as type "A," this indicates that there really is no hub which is part of the sprocket wheel. The wheel must be mounted on a flange or hub or other holding device.

TYPE "B"

This indicates that the sprocket has a hub extending on one side only from the wheel. This type of hub is generally found on small and intermediate size sprockets.

TYPE "C"

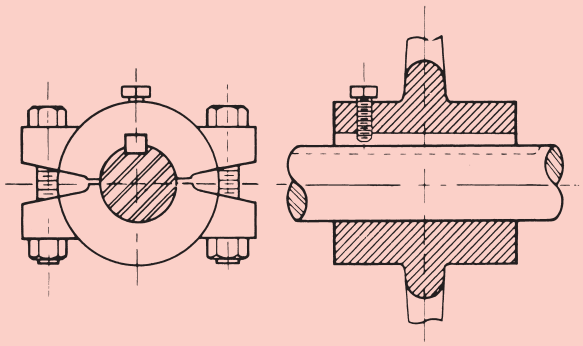
These hubs are centrally located, extending an equal distance on both sides of the wheel. This type of hub is the most common type and is generally found on large diameter sprockets.

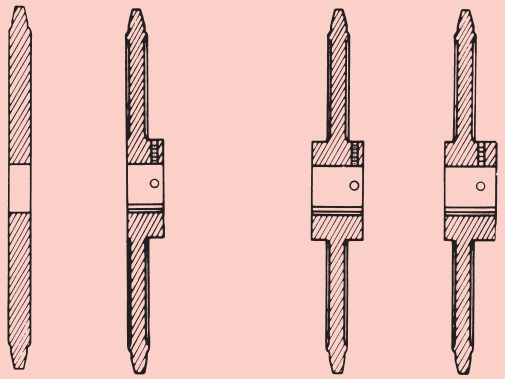
TYPE "C" OFFSET

Type "C" Offset hubs are the same as type "C" mentioned above, but are slightly off center.

KEYSEATING, KEYS AND SETSCREWS

A single keyseat and one pair of set-screws are furnished as standard on all sprockets unless otherwise specified. Keys are not furnished as standard and must be ordered. When keyway and setscrew sizes are not specified, they are supplied in accordance with the table of dimensions headed "STANDARD KEYWAYS AND SETSCREWS." Standard tolerances for straight and tapered keyways are: width +.002-.000, depth +.010-.000. Setscrews are placed over key at 90° to the key unless otherwise specified. Tapered keyways are supplied only when specified. Non-standard keyway sizes are available.





STANDARD KEYWAYS AND SETSCREWS			
Diameter of Shaft	Keyseat		Diameter of set screw
	Width	Depth	
1/2-9/16	1/8	1/16	1/4
5/8-7/8	3/16	3/32	1/4
15/16-7/8	1/4	1/8	5/16
1 5/16-1 3/8	5/16	5/32	5/16
1 7/16-1 3/4	3/8	3/16	3/8
1 13/16-2 1/4	1/2	1/4	1/2
2 5/16-2 3/4	5/8	5/16	5/8
2 13/16-3 1/4	3/4	3/8	3/4
3 5/16-3 3/4	7/8	7/16	3/4
3 13/16-4 1/2	1	1/2	3/4
4 9/16-5 1/2	1 1/4	5/8	3/4
5 9/16-6 1/2	1 1/2	3/4	1
6 9/16-7 1/2	1 3/4	7/8	1
7 9/16-8 15/16	2	3/4	1
9-10 15/16	2 1/2	7/8	1

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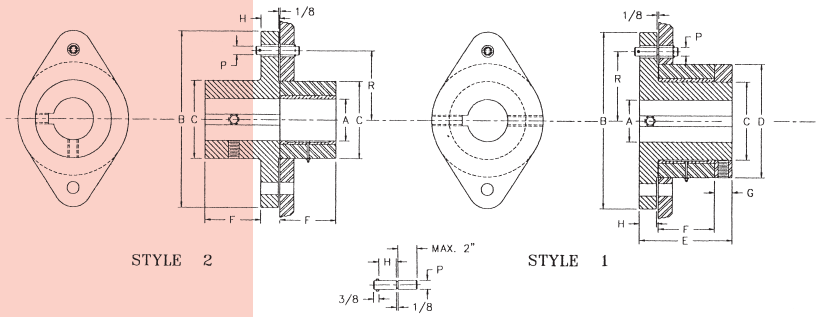
SPROCKET FEATURES

PHYSICAL PROPERTIES

We produce a special chemistry of gray iron that enhances the ability of the iron to form a hard "chilled" layer on the rim of the sprocket. All sprockets are a typical class 30 gray iron. This applies to all areas of the sprocket that are not chilled such as the hub and web areas.

All sprocket wear surfaces have a minimum brinell hardness of 400 in the rim areas which includes the entire tooth profile. This "chilled" hardness depth ranges from 3/16"-1/2". This compares to a typical brinell hardness of 200 in "unchilled" iron.

Our unique method of manufacture allows us to produce a sprocket with high hardness in the tooth area for long wear life while retaining a relatively soft and machineable hub area.



BORING

Standard Boring

Sprockets are bored to the sizes listed in the Sprocket Data Tables. Our factory holds all bores to the standard tolerances listed below. Bores larger than listed can always be supplied.

Tolerances for boring sprockets:

1" Diameter and under	Nominal plus .001"
Over 1" to 2"	Nominal plus .002"
Over 2" to 3"	Nominal plus .003"
Over 3" to 4"	Nominal plus .004"
4" and over	Nominal plus .005"

PLAIN BORE

Sprockets are supplied with plain bores when keyways and setscrews are not to be furnished. Sprockets with plain bores should always be specified when ordering. When only bore is given, sprockets are automatically keywayed and set screws are installed.

CORE-TO-BORE

When ordering sprockets not standard stock, it is always desirable to specify what sprockets will be bored to, so that proper size hub and cores can be installed.

MACHINE FACING HUBS

Hubs will be faced to exact dimensions upon request, and at an additional charge. This refers to exact length of bore. Sprockets are normally furnished faced one side only. Set screws are placed on the unfinished side of the hub since the unfinished side operates on the open side of the installation.

LONGER THAN STANDARD HUBS

Standard hub lengths are those specified in the Hub Data Tables. If longer hubs are required, they are available at additional cost.

SHEAR PIN HUBS

Shear Pin Hubs are used as a safety device to protect machinery from overload. The shear pin hub is keyed to the shaft and connected to the loose wheel by a pin which will transmit only the normal power requirements plus a predetermined overload without shearing. The selection of a shear pin rated at slightly more than twice the torque requirements is usually the proper size to use. We offer two types of shear pin hubs:

STYLE 1 is the most popular of the two types because it requires less space than Style 2. On this type, the wheel is mounted on the flange hub and held in place by a collar.

STYLE 2 consists of the loose wheel and the flange hub both mounted on the shaft. A bearing or set collar should be placed against the free side of the wheel.

TRACTION WHEELS

Traction wheels are available in a wide range of sizes and types to fit most chains. They are furnished in plate center and spoked arm types either solid or split construction and in segmental rim type.

FLANGED WHEELS AND ROLLERS

Single and Double Flanged Wheels and Rollers are offered in a wide variety of tread diameters and tread widths. Also available are Plain Face Wheels.

FLAMECUT SPROCKETS

All sprockets listed in the Index can be supplied Flamecut from C1045 steel plate. Flame Hardened teeth available upon request. This type sprocket can be provided when patterns do not exist.