Configuration of Sherman & Reilly Transmission Bundle Blocks

About Transmission Construction
Transmission-class line construction is very specialized. Compared to distribution construction, structures are taller, spans are longer, conductors are larger/heavier/stiffer, and pulls are longer and can extend over steep and very uneven terrain. In addition, aluminum conductors vary in construction requirements, calling for special handling techniques, tools, and equipment.

Transmission construction also involves different line and structure designs, as well as different conductor configurations (including simultaneous stringing of multiple conductors (“bundles”) using a single pulling line). These configurations can range from single to bundles of two, three, four, and six conductors per phase. Some lines are strung using conventional, ground-based equipment and tools, while others require stringing using helicopters.

For all these reasons, the configuration and quality of the blocks in which sheaves are mounted are as important as the sheaves.

About Sherman & Reilly Transmission Bundle Blocks
Sherman & Reilly’s bundle blocks are the result of extensive field research, laboratory testing, and real-world experience over a period of 75+ years. These blocks have been developed to enable virtually foolproof and trouble-free simultaneous stringing of multiple conductors with a single pulling line. The 70 Series is available in two-, three-, four-, and six-conductor configurations per phase, with or without separate pulling-line sheave.

The 70 Series blocks are of a rigid-frame design, and the frames are made of hot-dipped galvanized steel. Series of bundle blocks are available in any of the three designs that Sherman & Reilly offers: symmetrical, slim line or offset.

Sherman & Reilly bundle blocks are offered in two Series: the 70 Series and 72 Series. All blocks of both bundle-block Series incorporate the same robust and reliable, high-strength aluminum-alloy sheave design used for single-conductor blocks. However

Configuring Transmission Bundle Blocks
Bundle blocks are overwhelmingly used on high-capacity, long-distance, high-voltage transmission-line construction projects. These are projects that are planned many months in advance of construction in order to take into consideration the distance and terrain of the route, the voltages, and the capacity of the line. All of these factors (and others) affect the type, size, and number of conductors used and how they will be configured and installed. All of these factors further affect the configuration of the blocks that will be used. Since almost all such projects are at least a bit different from all others, bundle blocks are usually custom-configured and engineered specifically for each project.

Consequently, bundle blocks do not lend themselves to being configured from a set of tables in a catalog or on a website. Rather, bundle blocks must be configured in consultation with Sherman & Reilly. As preparation for that consultation, it is useful to understand the steps involved, which are to determine:

1. Sheave size.
2. Sheave lining, if any.
3. Number of conductors.
4. Separate pulling-line sheave, if any.
5. Frame type & design.
6. Fittings & hanging hardware.
7. Attachments.
Sheave size is largely a function of the size of the conductor being strung and of span length and terrain over which the conductor will be installed. Sheave lining is largely a function of the type of conductor being used and/or requirements from the conductor manufacturer.

Whether a separate sheave for the pulling line is needed is largely driven by the conductor manufacturer’s requirement for a separate sheave, so as to avoid contamination and/or damage to the conductor caused by damage done to, or dirt/debris left on, the sheave by a steel pilling line.

Frame size/type and fittings/hanging hardware are almost entirely a function of sheave size, the manner by which the block will be suspended, by conductor spacing, and the manner by which the conductors will be affixed (“clipped in”) to the insulators. The addition of an aluminum center drum may be required to achieve the desired conductor spacing. Depending on configuration, the pulling-line groove of that center drum may be either a groove made of steel inserts or a machined groove lined with urethane.

Attachments are a function of how the conductor will be installed and grounded.

Please refer to other publications found on this page and to the product pages of the respective Series for more information about the sheaves, blocks, and accessories.

For a thorough discussion on transmission blocks, please refer to the whitepaper Sheaves, Block, and Accessory Selection for Transmission Conductor Installation found in the Publications section of this page.

Ordering Transmission Bundle Blocks
For the reasons above, bundle blocks do not lend themselves to being ordered from a set of tables on a catalog or website. Rather, configuring and preparing an order for bundle blocks should begin by consulting Sherman & Reilly months in advance of the blocks’ being needed on-site.

So, when transmission line construction may entail the use of bundle blocks, consult your Sherman & Reilly Representative or consult directly with Sherman & Reilly by calling 1-800-251-7780 and asking for “Quotes.”