Snippet. New System:

TETRIX TETRIX is all about Robots and might be said to be broadly comparable to VEX in scope, see 41/1243, www.pitsco.com & www.tetrixrobotics.com.

TETRIX is produced by Pitsco Education of 915 East Jefferson, Pittsburg, Kansas 66762. The company was founded in 1971, became associated with Lego Education in 1997, and launched the TETRIX Max set, aimed at high schools, in 2008. The Prime set, for middle schools, followed in 2014. The latter has some different parts but they can be used with the Max components. Structural parts are aluminium and the main ones in Max are Channel Girders in various lengths with a distinctive hole pattern. The equivalents in Prime are square, tubular Beams. Other parts include plastic & aluminium Gears & Wheels, Motors, Servos, & radio control parts.

Fig.1

Robots made with TETRIX can interface with the Lego Mindstorms NXT kit to allow control from the NXT Intelligent Brick, or, using radio control, with a variety or programmable options such as myRIO & Arduino.

BASICS The thread is 6-32. Holes are 3.7mm, spaced at multiples of 8mm. Gears are 32 DP. Axles have a 'D' section: Prime ones are 6mm Ø; Max are 4.7mm (but the Motor shaft is 6mm). Bosses etc are single-tapped, some 10-32.

The MAX SET $595. Fig.1 shows it, with some of the small parts in Fig.1a, and a 'bowling' model in Fig.2. The Channel Girders are 32mm square with the longest 416mm. Lengthways the small holes are at 16mm pitch. The Tubes are 15.7mm Ø, 80-220mm long. Wheels are 3" Ø. Among the parts in the Tray are 40 & 80t Gears, and Hubs are bolted on to them.

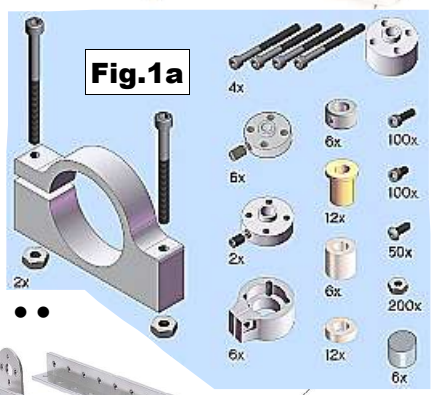

Fig.1a

The PRIME SET $329. The box is similar in style to the Max but the label is red rather than blue, and features the model in Fig.4. Beams are 16mm square, in 7 lengths up to 240mm. The parts are either joined by Thumbscrews with Wing Nuts, or reusable plastic Quick Rivets, with Pegs 24mm long & 7mm Ø. These methods are shown right. The Wing Nut's legs engage the larger holes; the stub legs of the Rivet's Connector body pass through the two parts to be joined and then the Peg is pushed into it. The Set has 24 Rivets & 24 Screws/Nuts. The 6-spoke Wheel is 90mm Ø. The Gears, 40 & 80t, have integral bosses.

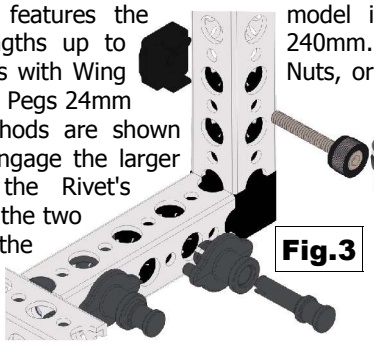
Fig.3

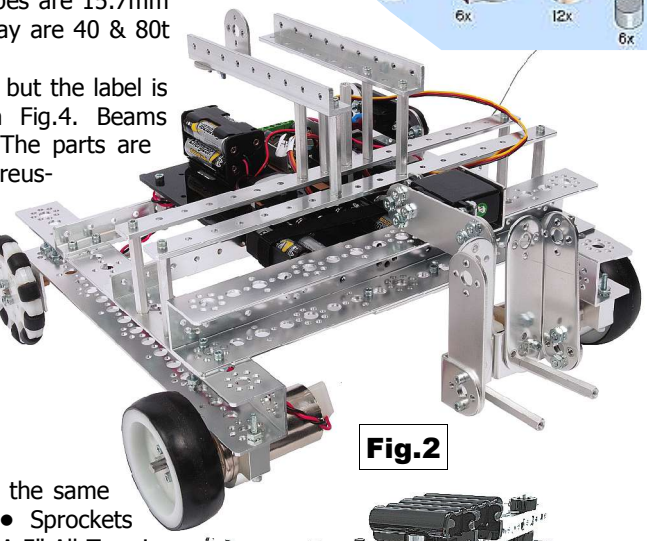
Fig.2

OTHER PARTS ● Gears include a 30t Bevel, a 120t Gear in the same style as the 40 & 80 in Max, and a 5" Rack with Pinion. ● Sprockets (16,24,32t) for ¼" steel roller Chain. ● 4" as well as 3" Wheels. ● A 5" All-Terrain Wheel with a heavy tyre. ● Track Parts which include a Driving Sprocket, & an Idler Wheel. The plastic Track Elements, 40*8mm, snap together and can be fitted with Rubber Inserts. ● A Geared Motor with an output speed of 150rpm. ● Brackets, Couplings, Spacers, Hubs, etc, etc.

OTHER SETS ● Max & Prime outfits with several sets of components for use by school classes. ● A Max Resource set, $170, with more structural parts, 4 more Wheels, & extra Gears including two of the 120t size. ● An Urban Search & Rescue Challenge Set, $799, to build Robots for the SkillsUSA competition. ● A Robot, $3500 (or $6999 assembled), 58" high with eyes that light up. It can move forward & backward (on tracks, not walking), move its shoulders & elbows, turn its head, laugh, and say 'hello' & 'thank you'. It is pre-programmed using LEGO® MINDSTORMS® EV3 (but said software is not included in the Set).

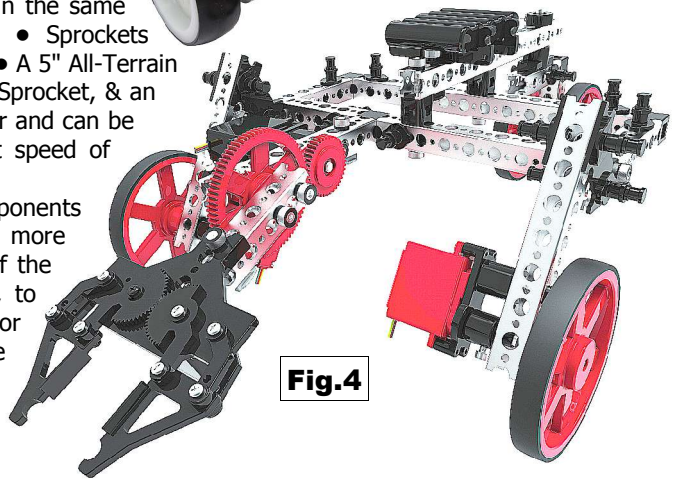
Fig.4