Trek: American handbuilt bicycles

Trek's reputation rests on its bicycle frames, and on the principle of building bicycles of uncommon quality for the discerning rider.

Function-Specific™ design: The science of bicycle performance.

The first criterion in defining bicycle performance is frame design. The frame is truly the heart of the bicycle and is most responsible for performance and comfort. Trek custom designs every frame for its intended use.

Since bicycle performance means different things to different riders, Trek invests considerable effort in designing a full range of frames to complement a variety of riding styles. Trek's attention to function in frame design has resulted in a choice of distinctive models, each with its own combination of responsiveness and handling. In addition, the critical dimensions of every Trek frame are size proportioned — providing a more precise fit and greater rider efficiency.

In all, hundreds of function-specific design parameters are carefully considered in the engineering of every Trek bicycle frame.

To illustrate the importance and interdependence of these many variables, two major factors in determining the bicycle handling characteristics are highlighted: steering geometry and wheelbase.

Steering Geometry:

C = head tube angle;
f = fork offset;
d = wheel diameter;
t = fork trail.

Steering geometry is a function of head tube angle, wheel diameter and fork offset, which combine to form fork trail. Fork trail is an important measure of steering sensitivity. Proper trail, a key design parameter of every Trek, results in a stable, balanced ride with predictable tracking. In addition, steering geometry is a major component of wheelbase.

Wheelbase is a function of chainstay length, seat tube angle, top tube length, as well as steering geometry. This is a critical performance dimension.

Short wheelbase is a characteristic of Trek high performance racing designs, providing the high speed responsiveness needed in a competitive situation.

Trek touring bicycles are designed with longer wheelbases. This longer wheelbase not only provides a smoother, more comfortable ride, but also the increased load carrying stability needed to handle bulky long distance touring panniers.

Whether you measure bicycle performance as a casual cyclist or professional racer, triathlon competitor or commuter; coast-to-coast tourist or off-road adventurer, there is a Trek which has been designed for you.

TOURING — Performance characteristics — extra comfort and stability suited to the demands of extended riding, positive cushioning of road shock, low center of gravity, good heel to pannier clearance.

RACING — Performance characteristics — precise handling and superior responsiveness, stability at speed, superb cornering, highly efficient transmission of rider energy.

SPORT/MULTI-PURPOSE — Performance characteristics — responsiveness and comfort over a wide range of riding conditions, precise handling, positive steering sensitivity, good upper body positioning.

ROUGH TERRAIN — Performance characteristics — ruggedly responsive under the most difficult riding conditions, extra strength and rigidity to absorb shock. High bottom bracket clearance for off-road terrain, positive handling and control.
Key Frame Geometry Parameters:
A. Seat Tube Length: Determines the frame size. All other lengths and angles are based on this dimension.
B. Seat Tube Angle: Affects the wheelbase and knee position relative to the pedals.
C. Head Tube Angle: Combined with fork offset, defines the trail of the front wheel which determines steering sensitivity.
D. Top Tube Length: Affects upper body positioning and the wheelbase.
E. Chainstay Length: Determines rear wheel clearance and affects the wheelbase. Heel to pannier clearance is important on touring designs.
F. Fork Offset: Affects steering sensitivity and shock absorption.
G. Drop: Determines bottom bracket ground clearance which effects the center of gravity and cornering.
H. Wheelbase: Shorter wheelbase provides more responsive handling and more direct transmission of energy. Longer wheelbase provides increased load carrying stability and more cushioning of road shocks.

Double-butted Frame Tubing
Every Trek bicycle utilizes "double butted" tubing, widely recognized as essential to the building of a high-quality bicycle.

Formidable stress is constantly put on the frame joints during all kinds of riding — casual, touring, or racing — that is why the tube ends need more strength than the mid-section. Trek’s double butted tubes are actually thicker or “butted” at the joints and taper to a thinner cross section in the middle.

Double-butting assures the rider of extra strength and lightness; frame responsiveness, and an optimal strength-to-weight ratio.

Tubing Wall Thickness

<table>
<thead>
<tr>
<th>Tubing Name</th>
<th>Top Tube</th>
<th>Down Tube</th>
<th>Seat Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reynolds 7530</td>
<td>0.7</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Reynolds 531C</td>
<td>0.8</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Reynolds 501</td>
<td>0.9</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Tange Mangalloy</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Champion</td>
<td>1.0</td>
<td>1.2</td>
<td>1.2</td>
</tr>
</tbody>
</table>

All dimensions are in cm unless otherwise indicated.
Advanced Framebuilding Technology

Trek has chosen the world's finest bicycle tubing from Reynolds®, Columbus®, and Tange®. These are primarily Chrome Molybdenum and Manganese Molybdenum steel alloys designed to achieve ultra-high frame strength-to-weight ratios.

However, tubing specifications prior to brazing do not accurately reflect the strength of a bicycle frame. It is the post-brazing characteristics that count. And only careful brazing at low temperatures with special alloys maintains optimal frame responsiveness and resiliency.

### Frame Material Yield Strengths (PSI)

<table>
<thead>
<tr>
<th>Steel Type</th>
<th>Before Brazing</th>
<th>After Brazing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Heat Treated</td>
<td>134,000</td>
<td>116,000</td>
</tr>
<tr>
<td>Manganese Molybdenum Steel</td>
<td>116,000</td>
<td>107,000</td>
</tr>
<tr>
<td>Manganese Steel</td>
<td>116,000</td>
<td>107,000</td>
</tr>
<tr>
<td>Chrome Molybdenum Steel</td>
<td>89,000</td>
<td>79,000</td>
</tr>
<tr>
<td>Chrome Molybdenum Manganese Steel</td>
<td>80,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Manganese Steel</td>
<td>79,000</td>
<td>79,000</td>
</tr>
<tr>
<td>Hi-Specification Steel</td>
<td>65,000</td>
<td>64,000</td>
</tr>
<tr>
<td>Low Carbon Steel</td>
<td>44,000</td>
<td>44,000</td>
</tr>
</tbody>
</table>

Trek's advanced brazing techniques complement these sophisticated frame materials. By precisely miter cutting the tube ends and utilizing a brazing thermal cycle which is designed to protect the fine microstructure of the tubing, Trek ensures maximum post-brazing strength. This rigorous brazing procedure is the ultimate guarantor of frame integrity.

### Trek Investment Castings

Investment casting is one of the most exacting and costly means of forming a metal part. This painstaking process, which requires precision tooling and highly skilled labor, produces complex parts which are renowned for their remarkable accuracy and consistent reproduction of detail.

Trek has pioneered in the extensive use of investment cast components, specifying them on a wide range of models. Brake bridges, fork crowns, bottom bracket shells, and seat lugs are among the investment cast components used on Trek frames. The excellent reproduction of detail obtained by this process has, for example, allowed Trek to incorporate a totally unique integral derailleur cable guide system into its investment cast bottom bracket shell to enhance shifting efficiency.

### Electrostatic Imron® Finish

DuPont Imron® activated polyurethane enamel is regarded the world over as one of the finest metal coating systems available. Save for a few custom makers, Trek is the only manufacturer to utilize Imron® as a standard finish. And only Trek has developed an electrostatic process for applying it to bicycle frames.

Prior to painting, Trek frames are dipped in a six-tank chemical cleaning and metal treatment system that provides a rust-resistant surface and ensures adherence of the finish. DuPont Imron enamel is then electrostatically sprayed over a thick coat of epoxy primer.

This finish system offers long term gloss retention, brilliant colors in sunlight, and exceptional resistance to gravel projectiles, extended exposure to sunlight, road salt and chemicals. It is a finish that will keep your Trek looking new and fresh for years.

### Custom Matched Components

Trek's commitment to excellence in framebuilding establishes an exacting standard for bicycle component selection.

As a totally American bicycle manufacturer, Trek is able to specify the finest components available on the international marketplace without being restricted by national origin. To assure frame and component compatibility, Trek engineers custom match components to suit the "function-specific" design of each frame. This matching procedure demands expertise and creativity, and plays a significant role in the special experience of riding a Trek.

### Exacting Quality Control Inspection

Every Trek undergoes an exhaustive series of quality control inspections—before, during, and after every step in its production. Inspection procedures range from highly sensitive light beam alignment to critical personal evaluation by an expert brazer. As a back-up to the Trek quality assurance inspection team, each and every Trek workforce is constantly being challenged to reject any frameset or component whenever he or she believes it does not meet Trek's stringent standards.

### Service People Who Aren't Oceans Away...

Should a Trek bicycle ever require warranty or repair service, it is accomplished quickly and efficiently at our Waterloo, Wisconsin facility. Quite simply, Trek has a quibble-free warranty which is supported by knowledgeable, dedicated customer service technicians.

### Trek...an Investment in Quality

As you consider investment in a bicycle, consider carefully the merits of investment in a Trek. For, in selecting a Trek you will have chosen a superior bicycle as well as a superior investment. Every Trek bicycle is a synthesis of meticulous design, sophisticated materials, and American craftsmanship. A distinctive combination of qualities in a bicycle which transcends the commonplace.
International Series:
The Trek Model 400 is the first Trek International Series bicycle. The International Series designation distinguishes a Trek designed frame, which has been imported, in unfinished component form from Japan, taking advantage of the latest high volume production technology for heat tolerant Mangallow tubing. These frames are finished, painted and assembled at the Trek factory to exacting standards. The result? A special value in Trek bicycles.
**Technical Data**

**Sport/Multi-Purpose:** A responsive and quick handling bicycle for a broad range of riding conditions.

**Sizes:** 19.5” 21” 22.5” 24” 25.5”

**Components:**
- Crankset: SR Super Custom forged alloy 40-52
- Derailleur: SunTour ARX-GT, AR front
- Chain: Campagnolo
- Bar/Stem: Engraved alloy/SR alloy
- Seatpost: SR Custom
- Saddle: Avocet
- Pedals: SR 152 alloy
- Hubs: Atom S/F Q/R alloy
- Brakes: DiaCompe 5000S sidepull
- Tires: Trek 27” x 1”
- Extras: Toe clips & straps
- Colors: Pewter with blue panel. Gunmetal blue with pewter panel.

**Specifications:**
- Frame: Reynolds 501 Chromalloy double-butted main tubes, Manganese alloy fork & stays
Technical Data

General Purpose

Touring:
A comfortable and stable touring bicycle with wide range 10-speed gearing to handle extremes of terrain.

Sizes:
19", 21", 22.5", 24", 25.5"

SPECIFICATIONS:
Frame:
Reynolds 501 Chromalloy double-butted main tubes, Manganese alloy fork & stays

Crankset:
SR Super Custom forged alloy triple 26-45-50

Derailleurs:
SunTour ARX-GT, AR front

Chain:
Sedisport

Frenwheel:
Atom Helicomatic 6-speed 13-28 (13/14/17/20/24/28)

Brakes:
DiaCompe 500GS sidepull

Bar/Stem:
Engraved alloy/SR Custom alloy

Seatpost:
SR Custom

Saddle:
Avocet

Pedals:
SR SP-152 alloy

Hubs:
Atom Helicomatic S/F Q/R

Rims:
27" 16-22 alloy

Tires:
Trek 27" x 1 1/4"

Extras:
Toe clips & straps

Colors:
Pewter with slate gray panel, Gunmetal blue with pewter panel.
COMPONENTS:
Crankset:
SR Super Custom forged alloy 42-52
Derailleurs:
SunTour BlueLine
Chain:
Sedisport silver
Freewheel:
Atomic Helicomatic
SPECIFICATIONS:
Frame:
Reynolds 501 Chromalloy double-butted main tubes:
Manganese alloy fork & stays
Bar/Stem:
SR Custom alloy
Seatpost:
SR P5 LaPrade
Saddle:
Avocet Racing 1
Pedals:
SR SP-150 alloy
Hubs:
Atomic Helicomatic S/F Q/R
Rims:
700c 13-20 alloy black anodized
Tires:
Trek 700c x 25 c
Extras:
 Toe clips & straps, Blackburn cage & bottle
Colors:
Slate gray with red panel.
**Technical Data**

**Sport-Multi-purpose:**
An all around bicycle for fast recreational riding. Medium wheelbase. Reynolds 531 frame with top notch componentry.

**Sizes:**
19” 21” 22.5” 24” and 26.5”

**SPECIFICATIONS:**
Frame: Reynolds 531C double butted manganese

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**Brakes:** Dia-Compe 500G sidepull
**Chain:** SunTour BlueLine
**Crankset:** SR SAX 5RG forged alloy 40-52
**Derrilliers:** SunTour Mighty 6-40d 14-30 (14/16/19/23/27/30)
**Seatpost:** SR P5 LaPrade
**Saddle:** Avocet Touring I
**Pedals:** SR SP-150 alloy
**Rims:** 27” 13-20 alloy
**Tires:** Trek 27” x 1 1/4”
**Hubs:** Atom alloy S/F O/R
**Colors:** Vermilion red with silver panel and head tube. Pewter with light blue panel and head tube.

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**Freewheel:** SunTour Mighty 6-40d 14-30 (14/16/19/23/27/30)

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**Extras:**
Toe clips & straps. Blackburn cage & bottle.

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**Wheels:**
Front and rear wheels are identical.

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**Brake Levers:**
SR custom alloy.
**Technical Data**

**Touring:** A versatile touring bicycle for the enthusiast. Fully equipped to handle serious long distance touring.

**Specifications:**

- **Sizes:** 19”, 21”, 22.5”, 24”, 25.5”, 26”
- **Frame:** Reynolds 531C double-butted manganese molybdenum main tubes. Manganese alloy fork & stays
- **Brakes:** DiaCompe 500G sidepull
- **Crankset:** Sugino Aero Mighty Tour forged alloy triple 28-45-50
- **Derailleur:** SunTour Cyclone MK II
- **Chain:** Selsport
- **Freewheel:** Atom Helicomatic 6-egg 13-28 (13/14/17/20/24/28)
- **Bar/Stem:** SR Custom alloy
- **Seatpost:** SR PS LaPrade
- **Saddle:** Arcace Touring I
- **Pedals:** SR SP-150 alloy
- **Hubs:** Atom Helicomatic S/F Q/R
- **Rims:** 27” 16-22 alloy
- **Tires:** Trek 27” x 1 1/4”
- **Extra:** Toe clips & straps. Blackburn cage & bottle. Blackburn rear rack
- **Colors:** Taupe with dark brown panel and head tube. Powder with light blue panel and head tube.
Technical Data

Sport: An all around bicycle for fast recreational riding. Medium wheelbase Reynolds 531 frame with the very best in discrete componentry.

Specifications:
- Sizes: 19", 21", 22.5", 24", 25.5"
- Frame: Reynolds 531C double-butted manganese molybdenum main tubes. Manganese alloy fork & stays
- Crankset: SR Aero forged alloy 40-52
- Derailleur: Sun Tour Cyclone MK II
- Chain: Sedisport
- Freewheel: Sun Tour New Winner Ultra 6-speed 13-28 (15/14/17/20/24/28)
- Bar/Stem: SR World Custom/SR Aerox alloy
- Seatpost: SR PS LaPrade
- Saddle: Avocet Racing I
- Pedals: SR SP 12 Aero alloy
- Hubs: Normandy Luxe Competition S/F Q/R
- Rims: 27" 13-20 alloy
- Tires: Trek 27" x 1 1/8"
- Extras: Toe clips & straps, Blackburn cage & bottle
- Colors: Pewter with light blue panel and head tube.
Trek Bicycles consist of thousands of component parts and materials made by Trek or purchased from sources around the world. Changes in customer demand or availability occasionally necessitate temporary or permanent substitution of parts specified in this catalogue. If substitution occurs, the new parts will be of comparable or superior quality and performance to those originally specified. Every Trek bicycle is equipped with safety reflectors required by federal law. All specifications are subject to change without notice.