STEALTH SERIES™
SHAFT ALIGNMENT SYSTEMS
S-680 SERIES WIRELESS 5-AXIS

- Highest Accuracy in Industry
- IP65 Windows® Rugged Tablet
- 8” or 10” Touchscreen Display
- Patented Dual-Beam™ Technology
- Duo-Plane™ Live Move Screen
- Embedded Bluetooth Class 1
- IP67 Laser/Target Housings
What sets the S-680 platform apart from the competition?

**The world's most advanced laser alignment technology**
For over 50 years, we have been providing highly accurate alignment systems to many different industries and applications. We started in the machine tool industry where tolerances are high and applications are difficult, and then 20 years ago we developed the world's first 4-axis shaft alignment system. All of that experience and knowledge has gone into the design of the S-680 platform Wireless 5-axis Shaft alignment system resulting in the most accurate and yet easy-to-use tool of its kind. You will find no better or faster system on the market to quickly and accurately align your rotating equipment.

**Patented Dual-Beam™ technology reduces errors by 50%**
This breakthrough technology allows you to simultaneously measure offset and angle with only one PSD sensor, which increases PSD accuracy by 50%. It also utilizes uni-directional laser beams (2 lasers, 1 direction) that make aligning machines amazingly easy, especially on long-distance applications. Dual-Beam™ technology also provides an amazing +/- 5 degrees of angular range plus an angular resolution that is 10 times higher than the highest angular tolerance. The result? More jobs done in less time. (And happier managers!)

**Waterproof Bluetooth® wireless with the industry's longest battery life**
With no cables to trip on or wrap around shafts, the S-680 platform makes for a safer work area, while giving you the freedom to go wherever you need to be – for 14 hours before recharging the battery. Our standard, Class 1 Bluetooth wireless technology offers up to 100 feet of communication range, and for wet work sites, the IPE67-rated T-1290 Target can be dunked in water up to 2 feet and still transmit data!

**Super linear 33x13 mm PSD detector - 0.5 Micron resolution**
Laser industry's highest-resolution 2-axis, super-linear PSD sensor, providing 0.5 micron resolution and a measuring area of 33 mm (V) x 13 mm (H). Another industry best.

**What sets the S-680 platform apart from the competition?**

**Duo-Plane™ live move screen for faster, easier alignments**
The Duo-Plane™ live move screen and T-1290 5-axis target allow you to simultaneously view a live alignment screen for both the vertical and horizontal planes (4 axes) without having to rotate the shafts. This is critically important on large machine applications where tightening the bolts can create horizontal movement of the machine, causing you to have to redo the alignment.

**2x Faster Alignments - Shim Once, Move Once**
Why would you trust a million-dollar piece of equipment to an entry-level, inexpensive laser? Critical machinery demands the best the industry has to offer and the S-680 platform is up to the task. Super-linear PSD technology, 500-point linearization and the latest electronic design reduce the error rate to <0.15%, which is up to 15x higher than our competitors, giving you the confidence that when the displays turn green, the motor is aligned as accurately as possible. Higher accuracy also means better repeatability and more accurate shim calculations so you don’t have to keep doing the alignment over and over again. Shim Once, Move Once!

**Off-the-shelf software display, so replacement is never a problem**
The S-680 platform uses familiar MS Windows® IP65 rugged tablets that are available from most computer stores. So there are no expensive, proprietary display devices to replace if broken.

**Easy-Guide™ software navigation makes everyone a genius**
Our Couple6 software is every bit as brilliant as our hardware, featuring our Easy-Guide™ navigation with its easy-to-follow, high-quality color screens - leading even the novice user through each stage of the alignment. And if you forget how to do something, the manual is built right into the software - compare that to our competitors’ multi-page cheat sheet! With software this easy to use, training is only required for the more complicated applications.

Why you need Stealth™ technology for long-distance applications
Alignments over long distances are particularly challenging when working with a 2-laser/2-detector shaft system because it’s very sensitive to small angular moves in the motor. For example, a tiny angular movement of just 0.005°/in at 10 feet will cause the laser beam to move in offset by 0.060"! This makes aligning the motor’s offset value very difficult to do, especially for the horizontal axis. With our Dual-Beam™ uni-directional laser technology, however, angular moves to motor do not move the laser beam at all and therefore do not affect the offset values! This means aligning the motor is amazingly easy, especially over long distances.

stealthalignment.com

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**Research shows 50% of all machine downtime is the result of poor alignments**

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**Dual-Beam™ detector technology**
A patented technology that allows the measurement of offset and angle simultaneously with only one PSD, increasing accuracy by 50%.

Here’s how it works:
1. Beam #1 blinks on and hits PSD measuring the center offsets.
2. Beam #1 blinks off for ambient light correction.
3. Beam #2 blinks on and bounces off a second prism and hits the PSD, measuring the angle.
4. Beam #2 blinks off for a second ambient light correction.

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**Bluetooth LED – Green means that the Target is connected to the computer. Blinking yellow means data is being transmitted.**

**On Target LED – Red means laser is blocked, green means laser is on target. Blinking green means Scanning Laser Mode (L-750).**

**Battery LED – Green means ok, yellow means charge.**

**Power/USB port – Target can be used while plugged in. Also used for data backup cable.**

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**2 Laser-2 Detector Technology (2 lasers, 2 directions)**

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**Dual-Beam™ Technology (2 lasers, 1 direction)**

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**S-680B offers familiar Windows® rugged IP65 industrial tablets with 8” or 10” touchscreens.**
In any alignment system, the hardware is only part of the story. The other, more important part is the software. So when we designed the Stealth™ Couple6 software, we had the novice user in mind and created our Easy Guide™ approach to navigation that is so simple to use, it requires little to no training. Easy-to-follow, high-quality, color screens lead you through each stage of the alignment, so you don’t need to constantly refer to “cheat sheets” just to remember how to use it!

**Multiple Software Configurations**

- **Couple6 Basic-Level**
  - Arc Mode™
  - Auto Clock™
  - Auto Sweep™
  - Flip It™
  - Horizontal/Vertical Machines
  - Machine Train-3 Software Module
  - Machine Image Capture (reporting)
  - Machine Templates
  - Orbital Plot Data Quality Analyzer
  - Repeatability/History
  - Signature Capture (reporting)
  - 7 Spacer-Shaft Formats
  - Soft Foot Check & Shim
  - Thermal Growth (coupling)
  - Thermal Growth (foot)
  - User-Defined Tolerances
  - Virtually Unlimited File Storage
  - Vertical Machines – Live Move

**Basic-Level Version Optional Software Features**

(Entry-Level + Auto Sweep™ may upgrade to any Basic-Level features plus these)

- Bolt Bound™
- Cardan Shaft
- Machine Train – 10 Machines
- Paint Mode
- Uncoupled Swipe™ Mode

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**Step 1 - Machine type, Dimensions & Tolerances**
Select machine and coupling type, enter dimensions and select tolerances. Can also enter user-defined tolerances.

**Step 2 - Laser Setup Screen**
Provides live, 4-axis, raw alignment data to initialize the system and maximize measurement range. On-screen graphics show you which direction to move the laser and target during the setup. Can also be used for Rough Alignment.

**Step 3 - Soft Foot Check**
On-screen, easy-to-follow procedure for checking Soft Foot, a common problem that can cause many alignment problems. Automatically selects the “problem” foot and calculates the shim to fix it.

**Step 4 - Measure Misalignment**
Up to five data-taking modes record data for even the most difficult applications. Save multiple sets of data to check repeatability. Data can be archived and data categories assigned to track alignments.

**Step 4 - Measurement results**
Click on a set of alignment data to display color-code alignment results. Red means out of tolerance, yellow means “good” and green indicates “excellent”. Foot values are also displayed.

**Step 5 - Live Move Screen: Motor View**
Featuring our Duo-Plane™ display that shows both vertical and horizontal planes (4 axes) updating simultaneously as the motor is being aligned. When displays turn yellow or green, you’re done!

**Step 5 - Coupling View**
For those users accustomed to gap/offset indicator methods, the Step 5 Live Move Screen can be switched to Coupling View to show the alignment directly at the coupling.

**On-demand help text**
Our software manual is built right into our software, so you don’t have to thumb through many pages to answer a question. Simply click “Help” from the menu, and the software will display the correct page of the manual for that screen.

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**Alignment Report**
(print or email)
To print, simply plug your tablet into a printer. To email, print report to a PDF and attach to your email. It’s that easy.

**Free Updates**
We constantly improve our software and provide free updates. Just click on “Check for Updates” and Couple6 does the work for you.

**Couple6 Interactive Tour**
Scan here to take an interactive tour of Couple6 on our new website: www.stealthalignment.com
Advanced Couple6 features

Display Options

S-680B offers the R-1342T2/RT, a familiar MS Windows® rugged, IP65 industrial tablet with 8” or 10” touchscreen that runs Couple6 and other HLI programs.

Auto Sweep™ simply the best data-taking method, Period.
Start rotating the shafts and the built-in accelerometer detects the movement, automatically collecting hundreds of data points. Stop rotating the shafts and Couple6 starts calculating the misalignment. More data means more accurate alignment data and less rework.

S data-taking modes
Included in the Couple6 Basic License is Auto-Clock™ and AutoSweep™ data-taking modes. Optional data-taking features include: Arc Mode™, Point Mode, and Uncoupled Swipe™ Mode for those hard-to-measure applications.

Flip it™ screen graphics. (Why didn't anyone think of that before?)
You shouldn't have to turn your screen upside down just because you are on the wrong side of the machine. This very popular feature allows you to flip the graphics with a double-tap of the screen. No more upside-down screens and mixed-up shims.

Database management
When you create a new machine in Couple6 software, it automatically creates a folder on your tablet and then saves each new alignment file for that machine in the folder. This allows you to keep a history of alignment for each machine so you can go back and easily collect historical data for trending purposes. Each file is time and date stamped so you can save multiple copies on the same date if needed.

Geometry add-Ons
T-1290 Target can be converted to Scanning mode to be used with our L-730 Leveling Laser, an auto-rotating laser that is the industry’s best flatness & straightness laser. Bore alignment accessories are also available along with software for most bore application. The tablet can also be used with any of our renowned geometry lasers.

Bolt Bound™
Enter dimension of the pump, and then lock different combinations of the motor and pump feet to see how it affects the alignment. The graphics and shim values automatically update with each click.

Vertical Motor Program
The industry's only vertical alignment display with live graphical displays of the motor's alignment along with shim values for all bolt-hole locations.

Flip it™ Feature
Couple6 allows the user to flip the motor graphics to match the pump/motor orientation without having to turn the display upside down!

More advanced features

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“"We have used the system and it really is good. It got us through the massive soft foot issues reasonably quickly, and the alignment was a breeze. The controls were simple and intuitive, and the touch screen made data entry very quick. I was able to pick it up, and align a motor accurately the first time, with very little training and no previous alignment experience. Thank you for making such an easy-to-use and accurate system."”
Jeff F.
Engineer Roanoke Cement Company

“stealthalignment.com”

Options
Bracket & Chain Sets
A-982 Magnetic Brackets (set of 2)
A-980C Extra Chain Sets 1”-12” Shaft Diameter
A-980NRA Non-Rotating Shaft Brackets
A-980NRB Non-Rotating Large Shaft Bracket
A-980OF Offset Brackets
A-986 Magnetic Coupling-Flange Slider Bracket
T-1285B Outdoor Light Filter

Geo Software and Accessories
L-750 Auto-Rotating Laser with P-R base
A-987 Flatness Measuring Fixture for T-1285/T-1290 Targets
S-1388 Plane5 Software
### Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser/Target Unit Size</td>
<td>4.2” x 3.3” x 2.2” (107 mm x 84 mm x 55 mm)</td>
</tr>
<tr>
<td>Housing Material</td>
<td>Impact resistant plastic</td>
</tr>
<tr>
<td>Detector Type &amp; Size</td>
<td>2-axis super-linear PSD 33 mm (v) x 13 mm (h) provides 4 continuously updating alignment axes (2 alignment plane).</td>
</tr>
<tr>
<td>Target Measurement Resolution</td>
<td>Offset: 0.5 micron (.00002”)</td>
</tr>
<tr>
<td>Angular</td>
<td>Angular: 0.007 mm/m (.00008 in/ft)</td>
</tr>
<tr>
<td>Angular Measurement Accuracy</td>
<td>Offset: &lt;0.15%</td>
</tr>
<tr>
<td>Angular</td>
<td>Angular: &lt;0.75%</td>
</tr>
<tr>
<td>Angular Sensor Range</td>
<td>+/- 5° (+/- .085”/inch or 8.5 mm/100 mm)</td>
</tr>
<tr>
<td>Laser Type</td>
<td>650 nm dual-beam laser with horizontal adjustment &lt;0.9mW</td>
</tr>
<tr>
<td>Communication between</td>
<td>Wireless Bluetooth® Class 1</td>
</tr>
<tr>
<td>Target &amp; Data Analyzer</td>
<td>2.4 ghz plus backup cable</td>
</tr>
<tr>
<td>Wireless Range</td>
<td>Up to 100 feet (30 M)</td>
</tr>
<tr>
<td>Ruggedized Display Platform</td>
<td>Industrial tablet with 8” or 10” touchscreen.IP65/IP67/C1D2</td>
</tr>
<tr>
<td>Accelerometer Resolution</td>
<td>0.1°</td>
</tr>
<tr>
<td>Accuracy</td>
<td>+/-1°. Measurement accuracy not affected by rotation sensor accuracy.</td>
</tr>
<tr>
<td>Environmental</td>
<td>IP67 (laser &amp; target). IP65 (tablet).</td>
</tr>
<tr>
<td>Data Storage Capacity</td>
<td>Virtually Unlimited</td>
</tr>
<tr>
<td>Bracket Set</td>
<td>Covers 1” (25.4 mm) to 6” (152.4 mm) diameter shafts.</td>
</tr>
<tr>
<td></td>
<td>Comes with 4” (101.6 mm), and 8” (203.2 mm) posts</td>
</tr>
<tr>
<td>Application Range</td>
<td>33’ (10 m) between laser and target</td>
</tr>
<tr>
<td>Operating/Storage Temperature</td>
<td>5°F to 140°F (-15°C to 60°C) for Laser, Target</td>
</tr>
<tr>
<td></td>
<td>-4°F to 140°F (-20°C to 60°C) for R-1342T2/RT</td>
</tr>
<tr>
<td>Battery Life Target</td>
<td>14 hours continuous use with Bluetooth® — 15 hours with backup cable.</td>
</tr>
<tr>
<td></td>
<td>Target can be plugged into power source during use. Battery status indicator for both T-1290 Target and PC.</td>
</tr>
<tr>
<td>Battery Life Laser</td>
<td>150+ hours continuous use. Blinking LED indicates low battery status</td>
</tr>
<tr>
<td>Battery Life Tablet</td>
<td>Up to 8 hours normal use</td>
</tr>
<tr>
<td>AC Battery Charger (Laser and Target)</td>
<td>110V to 220V with U.S. and European adapters.</td>
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