

 **Goulds Pumps**

PARTS

AND MUCH MORE

*Genuine Replacement Parts
Inventory Services
Upgrades and
Re-engineering*



***Experience The Difference -
Experience The Value***



ITT Industries
A-C Pump — Goulds Pumps

Buy Goulds!

Genuine Goulds Replacement Parts



Memphis, TN

A hundred reasons to buy your parts from Goulds Pumps.

Whether you need parts for A-C Pump or Goulds Pumps, we have over **one hundred stocking locations** worldwide waiting to service your needs.

Goulds has the largest parts distribution system globally. Strategically located stocking distributors and factory warehouses insure availability of your OEM manufactured parts when and where you need them.

The answer to better performance and lower operating costs.

Want to lower your life cycle costs? Use Goulds and A-C ISO-quality parts. They are precision machined to exacting specifications utilizing the latest drawings and molds. Cast correctly and machined perfectly result in optimum efficiency and service life. Extend your MTBF and minimize your energy costs.

Delivering on the promise.

Parts are available for fast delivery worldwide. Besides the more than 100 stocking distributor and factory warehouse locations worldwide, Goulds Pumps maintains an extensive inventory in its 53,000 sq.ft. Central Distribution Center in Memphis, Tennessee. We have more than doubled our parts inventory over the past three years to provide unparalleled customer service.

- Same Day shipment for most parts.
- 98% On-Time Performance for parts.
- \$100 million in worldwide inventory.
- 24 Hour, 7 days a week, emergency breakdown service.
- Aggressive leadtimes on all non-stock parts.

Quick, same day response to quotation requests.

Our fully staffed Customer Service Center reacts quickly to your inquiry. 99% of all quotes are responded to in one business day or less. Other special requirements are investigated and quoted as quickly as possible.



Shanghai, China

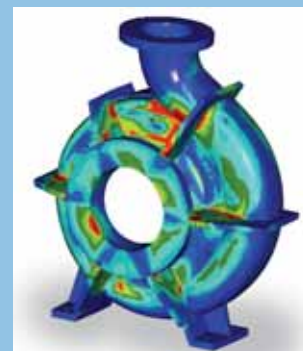


Axminster, UK



Questions You Should Ask Yourself Before Buying Non-OEM Parts For Your Goulds Pump

- Will they fit correctly in your Goulds Pump?**
Non-OEM's cannot consistently meet the tight tolerances required for precision parts. Stop paying the hidden costs of trying to make them fit into your Goulds Pump.
- Will they hold the exacting tolerances of original equipment?**
They can't. And you will pay the price in performance and service life. Open tolerances can cause catastrophic failure. Your process goes down and someone can get hurt.
- Do they provide application assistance?**
Goulds has the experience to guide you through any application issues.
- Do they incorporate the latest design improvements?**
You could be sacrificing performance, operating efficiencies, service life, and operational safety.
- Do they offer ALL parts or just a few high volume spares?**
"Mix and Match" replacements will be a procurement and maintenance nightmare, not to mention potential performance and reliability issues.
- Do they stock all your parts globally as well as locally?**
Goulds supports you with over 100 stocking locations for fast delivery.
- Do they offer automated inventory management services to reduce your parts on-hand investment?** Not a chance.
- Do they offer metallurgies to fit your application?**
Goulds has a wide variety of metal and non-metallic options plus on-staff metallurgists to consult on difficult services.
- Are they ISO certified?**
All our operations are ISO certified. How can they substantiate their quality claims?
- Do they have on-going research and development or do they just copy the best?**
Goulds is constantly generating innovative products and updates to existing products. Are you buying current or "dated" technology?
- What is their parts warranty? Will they still be around when you need them?**
Goulds has been servicing industry for over 150 years and has the backing of ITT Industries, the largest pump company in the world.



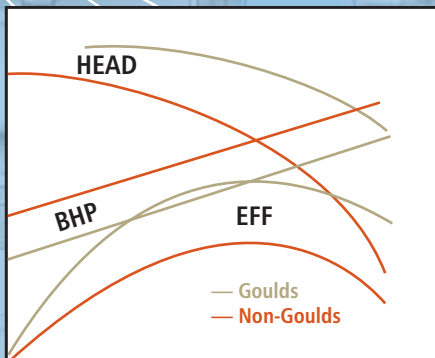
PS Using Non-Goulds parts voids your pump warranty and exposes you to liabilities should a catastrophic failure occur.

A recent test of a replicated pump shows that the non-Goulds parts had:

23% less efficiency than Goulds

16% less total head than Goulds

10% less flow than Goulds





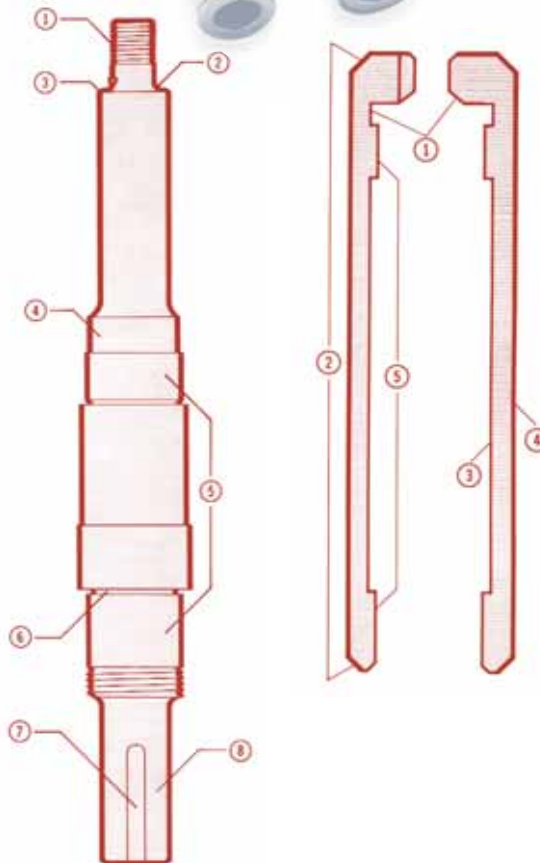
What may seem to be the easiest to copy can prove the most expensive to use.

Check these items BEFORE you buy.

Checking The Shaft

Some critical dimensions and observations are:

- 1** Proper diameter and depth of shaft threads insure positive locking of impeller and shaft sleeve.
- 2** Long radius fillets minimize stress, combats fatigue failure and insures maximum shaft life.
- 3** Large chamfers and perpendicular shoulder insures proper seating of the sleeve. Reduces runout and optimizes seal life. Check proper location of all shaft "steps" by comparing our shaft to theirs.
- 4** Ground surfaces at labyrinth oil seal fits to assure optimum seal life.
- 5** Exact bearing fit diameter to assure proper assemble fit to bearing. Again shoulder must be square for correct bearing alignment to the shaft.
- 6** Radius undercuts at bearing fit shoulders to avoid interference with the bearing ID.
- 7** Snug keyway fit at coupling to assure proper coupling engagement.
- 8** Critical shaft OD's should be checked using micrometers. Areas such as bearing fits, impeller fits, coupling fits, and sleeve fits.



Checking The Sleeve

Using micrometers, check the inside and outside diameters of the sleeve. Check for a proper fit of the sleeve on the shaft by sliding sleeve onto shaft.

In addition, some visual observations can be made. Check for chamfers on OD's and ID's. Sharp edges can damage secondary sealing members. Check for undercut at the hook end to assure proper seating of the sleeve to the shaft shoulder. Also look for the undercuts to facilitate easy removal of the sleeve from the shaft.

- 1** Inside chamfer and undercutting mandatory to insure proper seating of sleeve on shaft. Improper seating can result in sleeve runout and drastic seal life reduction.
- 2** OD chamfers remove sharp edges which can damage secondary sealing members on mechanical seals.
- 3** Undercut area prevents seizing on shaft or pinching of sleeve to shaft by mechanical seal set screws.
- 4** Surface finish is ground and polished to extend packing and mechanical seal life. Burnishing both smooths and hardens surface of sleeve.
- 5** ID tolerances at these locations provide snug sleeve-to-shaft fit, negate vibrations, optimize mechanical seal life.

No radius in high stress areas. Reduces significantly the torque handling capability of the shaft. Lack of chamfer focuses stress up to 3x in the shoulder area compared with a Goulds shaft.



Replication is not Duplication.

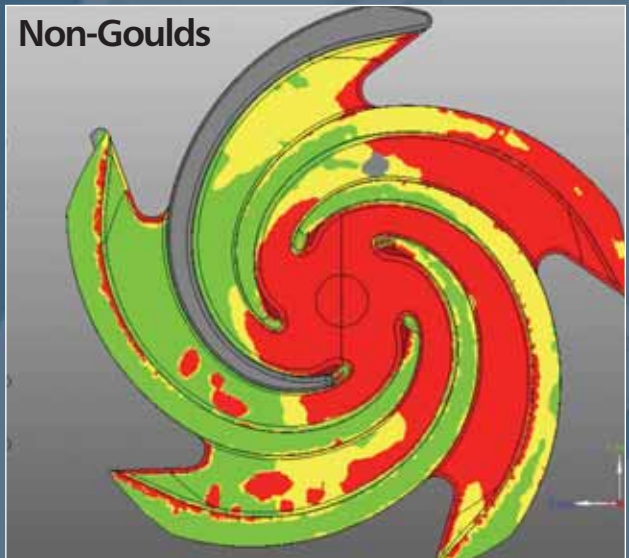
At first glance some pump parts tend to look the same, but when you take a closer look and compare – the difference is strikingly clear.

In recent tests, non-Goulds parts were scanned and over-laid on Goulds drawings...the differences are eye opening!

Dimensionally, some impellers were not even close. Impeller castings had serious dimensional issues that contribute to balance and performance problems.

In this dimensionally unstable, non-Goulds impeller:

- - Non OEM Impeller thicker than design specifications
- - Non OEM Impeller thinner than design specifications
- - Non OEM Impeller close to design specifications



Nose at eye of impeller
Rough and dimensionally inaccurate.

Surface quality

Poor casting on the non-OEM could cause inclusions which lead to accelerated corrosion and erosion.

Vane shape and angles

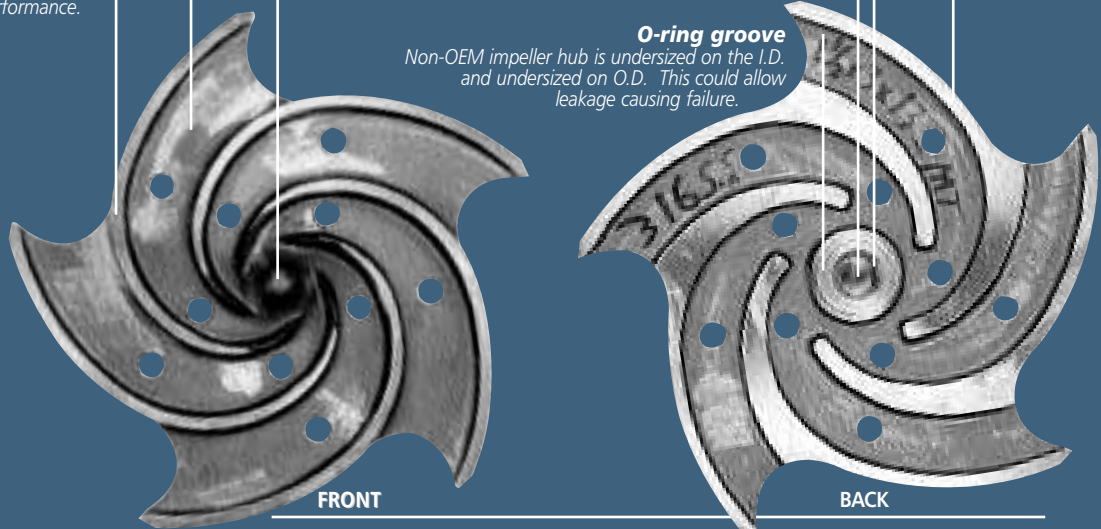
The depth of the vane is either too small or too large. The width, too thick or too thin. Vane length, shape or axial width of impeller is incorrect. The leading edge of vane doesn't match the casing and excessive vane Total Indicator Readout (T.I.R.) makes proper adjustment of impeller impossible. These all add up to a pump that will not operate at design point and will have reduced pump performance.

Pump out vane height
Insufficient vane height will result in higher axial thrust and stuffing box pressure and ineffective ejection of solids from the mechanical seal/packing chamber.

Chamfer at bore
Goulds has a chamfer—the non-OEM may not. This could cause the impeller to wobble.

Bore depth
If the bore is too shallow, it will not seal against the sleeve allowing for leakage and potential catastrophic failure.

O-ring groove
Non-OEM impeller hub is undersized on the I.D. and undersized on O.D. This could allow leakage causing failure.



Non-OEM

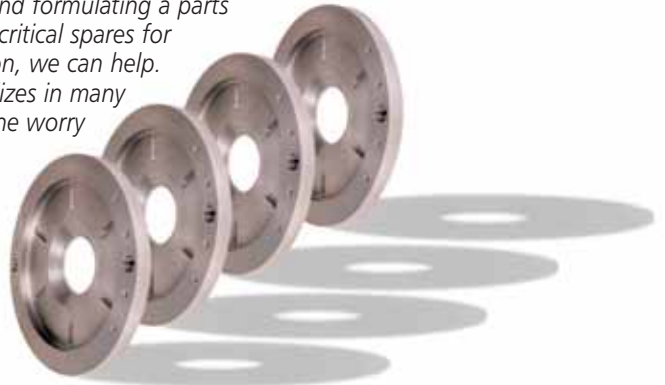
Experience The Difference - Experience The Value



Inventory Management Services **Expert Analysis and Rationalization to** **Reduce Your Inventory**

Reduce your inventories of on-hand spares saves you the time and expense of controlling non-productive materials.

If you need assistance in identifying and formulating a parts stocking plan to assure availability of critical spares for your A-C and Goulds pump population, we can help. Our PRO Services organization specializes in many customer support programs to take the worry out of your MRO function.



Price and value!

You may be surprised at the competitive prices. Manufacturing lot size runs of parts minimizes production costs plus insures availability and repeatability. Unbeatable value.

Our Proven Process

Inventory Optimization

- evaluate your inventory
- recommend safety stock
- rationalize across plants
- eliminate duplication and standardized materials of construction

Inventory Process Improvement

- automate replacement process
- integrate planned repair schedules

Population Survey

- recommend sub-assemblies to eliminate costly multiple levels of inventory
- identify upgrade opportunities
- implement power end replacement program
- eliminate obsolete inventory
- standardize material of construction for parts

Excess Inventory Disposition

- use in PRO Service repairs
- remarketing to other Goulds customers (over 600 customer inventory profiles in our computers)



Power End Program

Goulds Premier Power End Program
Models 3196, 3175 and 3180



Stop rebuilding power ends.

Why Use Goulds Power Ends

- New factory built units
- 3 Year Warranty
- OEM tolerances guaranteed the first time and every time
- Extend MTBF with new Power Ends
- Upgrade older designs to new Power Ends with the latest technology
- Reduce overall maintenance costs
- Dramatically reduce inventory
- 1 Power End vs 20+ individual parts
- Eliminate lost production due to unplanned downtime
- Reallocate maintenance resources to proactive maintenance initiatives
- Reduce the time to repair pumps
- Eliminate the guesswork on which parts to reuse
- Eliminate hidden costs of Power End repair
- Stocked at over 40 locations throughout North America

Upgrades

Liquid end pump upgrades extend pump life.

Material upgrades are an economical alternative to replacing worn or corroded liquid end parts with the same metallurgy. Goulds can improve your part life 100% just by selecting the right metallurgy material for the application. Often, service conditions change from the original design. Goulds can improve ANSI pump life by upgrading with a liquid end designed specifically to meet your new service conditions.



NON-METALLIC PROCESS PUMP END



NON-CLOG PUMP END



LOW FLOW ANSI PUMP END

PRO Services

PRO Services has strategically located service centers worldwide that repair and maintain all types and brands of rotating equipment. This highly experienced team will help you reduce the cost of equipment ownership through:



- Quality repairs
- Equipment upgrades of older equipment
- Hydraulic re-rates to run equipment at its designed operating point
- Utilize the latest techniques and preventive equipment monitoring
- Trouble shoot problems using root cause analysis
- Plan activities with plant downtime in mind - have parts, manpower, and turnkey support ready when needed
- Analyzing spare parts inventory and develop reduction options

We work with our customers to develop effective maintenance and asset management programs to lower maintenance costs, improve uptime and reduce inventory costs.

All Repairs are Warranted



For more information call your nearest PRO Service Center.
For Service: 800-335-6350 After Hours: 800-446-8537



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Visit our website at www.gouldspumps.com