

ENGINE STARTING

MARINE
PURCHASING

When Power is Critical

IPU
GROUP
Engine Starting



Rapid delivery of non-electric starter motors and systems for marine engines

DIESEL ENGINE STARTING

For engines up to 150 litres

Marine purchasing can be stressful. If a ship's on-board emergency engines aren't working it can't sail. Delays cost money and puts pressure on the ship's crew. This pressure is passed to you to source parts.

IPU relieves the pressure.

IPU are experts in non-electric engine starting and have supported the marine industry for over 30 years. Our range includes:

- Spring Starters
- Air Starting Systems and Motors
- Hydraulic Starting Systems and Motors

We can provide you with the replacement you need, when you need it and wherever the ship is due to dock.

Rapid response

When you need an item you need it now. We will send you a quote within 60 mins and, in many cases, dispatch the product the same day.

One-stop-shop with technical expertise

Getting the right product is as important as getting it quickly. IPU has the in-house expertise to ensure you get the right product for your engine.

Shipping to anywhere in the world

We have years of experience shipping products all over the world. No matter where your ship will be we can ensure your product is waiting quayside when the vessel arrives.



5 reasons to work with IPU

1. Rapid response

When an on-board engine breaks down the pressure is on you to source the right parts to fix it. IPU relieves the pressure. Our aim is to provide you with a quote in under 60 minutes.

In many cases we can even dispatch your order on the same day. Thanks to our stock holding of starter motors we can usually ship products the same day we receive the order. You won't have to wait weeks for one to be made.

2. One port of call for engine starting requirements

When time is critical you don't want to have to contact 3 or 4 different companies. You want to handle all your projects in one phone call. That's where IPU comes in. We can supply a complete range of non-electric starting systems, including:

- Spring Starters
- Air Starting Systems and Motors
- Hydraulic Starting Systems and Motors

3. Technical support

There are as many different engine types as there are screw head sizes. But don't worry, our experts will make sure you get the right product for your engine. By asking a few key questions we can identify the correct solution, even if you've used a competitor's product.

We make sure you get it right first time, every time.

4. Easy ordering

To order from IPU simply phone or email us with the part you require (e.g. starter motor), the engine it will be used on (e.g. Caterpillar 3054) and where you need it to be sent. We'll do the rest. Behind the scenes our team will:

1. Analyse the specific engine type, its application and the environmental conditions it will face.
2. Establish which specific product matches your engine and requirements.
3. Ship it to the agreed location. This includes taking care of all documentation (such as customs declarations etc...).

5. Delivery anywhere in the world

You don't get to choose when and where your on-board engines stop working. Not a problem, we have over 30 years experience shipping products all over the world. We'll get you the product you need even if you're in the Bermuda Triangle!



IPU's range of engine starting systems

Spring (Mechanical) Starter Motors

IPU's SureStart spring starter motors provide reliable and cost-effective starting for diesel engines up to 12 litres. They deliver reliability through simplicity. To start an engine you simply wind the handle then release the trip lever. They are reliable in temperature extremes or damp conditions and there's no risk of waterway pollution.

Guaranteed starting - Spring starters are reliable after shutdowns or in damp, humidity, cold or heat. They even work after full immersion in water.

Space and weight saving - Spring starters are incredibly compact. Starting at only 12kg they are less than half the weight of electric starters.

Ease of use - Spring starters are a direct 'bolt-on' alternative to electric starters. They can even be fitted while the vessel is on the water.

For more information please visit www.ipu.co.uk/spring-starters



Engine up to:
12 litres

Max torque at pinion:
146 Nm (108 ft/lb)



Hydraulic Starting

IPU's hydraulic starting systems provide guaranteed starting for diesel engines up to 80 litres. They offer reliability, durability and independence from electrical systems.

Unbeatable reliability - Hydraulic energy can be stored indefinitely. After discharge, it can be quickly and easily re-charged via hand pump.

Quick delivery and easy installation - IPU can deliver complete systems so you can fit and forget. No specific technical expertise is required.

Low maintenance - Hydraulic starting systems are enclosed. Internal components are immersed in oil, protecting them from adverse conditions.

For more information please visit: www.ipu.co.uk/hydraulic-starting



Engine up to:
80 litres

Max torque:
84 Nm (62 ft/lb)



Air (Pneumatic) Starting

IPU's air starters are a lightweight, powerful and compact solution for diesel engines up to 150 litres. They need no lubrication and are low maintenance. They can operate using your existing air supply, saving space and costs by reducing the need for reduction valves or large air tanks.

Flexible installation - IPU's air starters are flexible enough to suit any application with the option of using an existing air supply.

Performance in all situations - Air starter motors operate in extreme temperatures and continue to operate independently if electrical systems fail.

Low maintenance - Developed as an easy to install, fit-and-forget solution.

For more information please visit: www.ipu.co.uk/air-starting



Engine up to:
150 litres

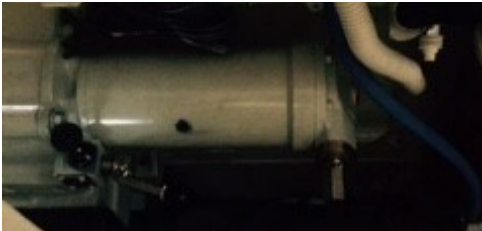
Max torque:
338 Nm (249 ft/lb)



Case Study

Full case studies are available on our website: www.ipu.co.uk/case-studies/starting

American Commercial Barge Line



LOCATION

Jeffersonville, Indiana, USA

SIZE

4,230 Barges

EQUIPMENT

Detroit Diesel Series 71
Cummins 8.3L Mechanical Engine

ACBL use diesel engines on their barges to power vertical lift pumps. The reliability of this equipment is key as it is used to load and unload cargo. If a workboat's loading equipment fails at the dockside they receive an immediate \$10,000 fine.

If that failure is prolonged it can also result in the customer having to halt production if they can't get their stock from the barge.

ACBL were also concerned about:

- the reliability of on-board engines in temperature extremes. ACBL transport cargo from Texas to Minnesota, so temperature ranges from -23°F to 100°F (-30°C to +40°C).
- the risk of pollution entering the waterways. The US Environmental Protection Agency (EPA) impose heavy fines if any pollution enters the inland waterway.

IPU's solution was to provide both spring and hydraulic starters for their various engines. The benefits were:

- spring starters don't require fluids, removing the risk of pollution.
- hydraulic starting systems are more resistant to temperature extremes so offer an unbeatable level of reliability.

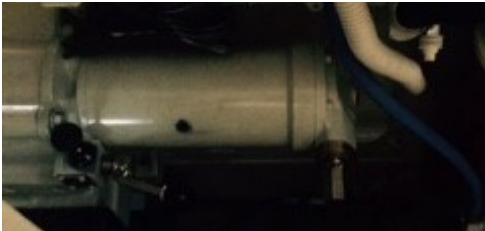
"I couldn't ask for a better group to work with. IPU has delivered everything we've required them to do. On top of that their performance has been excellent."

American Commercial Barge Line

Case Studies

Full case studies are available on our website: www.ipu.co.uk/case-studies/starting

American Commercial Barge Line



LOCATION

Jeffersonville, Indiana, USA

SIZE

4,230 Barges

EQUIPMENT

Detroit Diesel Series 71
Cummins 8.3L Mechanical Engine

ACBL use diesel engines on their barges to power vertical lift pumps. The reliability of this equipment is key as it is used to load and unload cargo. If a workboat's loading equipment fails at the dockside they receive an immediate \$10,000 fine.

ACBL were also faced with concerns over engine reliability in temperature extremes and the risk of pollution entering the waterways.

IPU's solution was to provide both spring and hydraulic starters for their various engines. The benefits were:

- Spring starters don't require fluids, removing the risk of pollution.
- Hydraulic starting systems are more resistant to temperature extremes so offer an unbeatable level of reliability.

"I couldn't ask for a better group to work with. IPU has delivered everything we've required them to do. On top of that their performance has been excellent."

American Commercial Barge Line

ATP Cheviot platform



LOCATION

62 miles east of Shetland Islands

SIZE

Main deck— 66,736 square feet

EQUIPMENT

CAT 3516 - Offshore generator set and fire pumps

The Cheviot production platform is a semi-submersible drilling, production and storage facility used within the Cheviot offshore field which is owned by ATP Oil & Gas (ATP).

The Cheviot deep-water platform is deployed approximately 62 miles east of the Shetland Islands, in 550ft of UK North Sea waters.

IPU were awarded all starting systems for both the fire pumps and generator sets. The three start systems supplied were for two fire pumps and the emergency generator set.

The installation of the hydraulic start system for the generator was a challenge as there was limited space available.

The tubing and fittings were required to be Super Duplex which complied to the specification and added enhanced corrosion resistance to the system.