



# High-Volume Fi-Fi System Puts Vessel Ahead

**Logan Clutch, Moose Boats and Cummins Pacific have teamed up to create the most capable fire boat package in the business.**

Marine diesel engine specialist Cummins Pacific LLC and Logan Clutch have teamed up with Moose Boats Inc to deliver a new vessel, with outstanding fire pump capability, to West Pierce Fire and Rescue in University Place, Washington.

Moose Boats, a boat designer and manufacturer based in the San Francisco Bay Area, was awarded the contract to build a M2-37 catamaran fire rescue boat. The 37 ft. aluminium catamaran is powered by the newly-introduced twin Cummins 6.7 ltr. 425 hp turbo diesels and propelled by Hamilton 292 water jets. The vessel will provide West Pierce Fire and Rescue with fire-fighting, rescue, dive and shore-landing capabilities.

It features a unique fire pumping arrangement, with dual 4,546 litres/min fire pumps and a remote control fire monitor rated for 9,092 litres/min, as well as an electrically-operated bow door. The bow door arrangement maximizes the vessel's forward deck arrangement for emergency response and represents a new evolution in Moose Boats' overall engineering and design capabilities.

West Pierce Fire and Rescue's M2-37 Endeavor is also equipped with 5 in diameter discharges in the cockpit and foredeck, for supplying water to land-based fire apparatus or hydrant systems.

Logan Clutch president, Andrew Logan, said: "Moose Boats and Cummins approached Logan and asked if we could come up with an engineered clutch solution for users, such as fire-fighting boats, with large auxiliary power take-off (PTO) requirements.

"Logan designed the bracket for the Cummins QSB 6.7, by collaborating with the Cummins engineers in Charleston, South Carolina. We also produced a solid model, and conducted a finite element analysis (FEA), using data supplied by Cummins."

Unlike previous fireboat arrangements, the Cummins/Logan Clutch system, packaged with a jet drive, enables full authority maneuvering from both engines while pumping at full pressure and flow. At 2,100 rev/min, the Cummins QSB 6.7 engine provides 140 hp at the jet, with 150 hp available for the fire pump. With 6kW of electrical generating power from two engines, and the ability to drive freon compressors, a marine generator set might not be necessary in many small boat applications.

The Logan PTO installed is the SAE PTO 600— a low-profile, compact design suitable for workboats, fishing boats and pleasure craft. During maneuvering, the Logan PTO can be used as a separate power source for bow and stern thrusters. It can also directly connect to a pump drive — which



**West Pierce Fire and Rescue crew onboard their vessel.**

could power winches, reels, hoists and deck pressure washers — and can be coupled to an alternator to supply electric power to other power consumers on the vessel.

Moose Boats sales engineer Mark Stott said: "The collaborative and seamless design approach with Cummins and Logan Clutch allowed Moose Boats to achieve a high-volume fire-fighting system without sacrifice of our philosophy that vessel maneuverability is paramount during marine fire-fighting scenarios."

The Logan arrangement increased the previously available flow threefold — to 12,274 litres/min via two 4,546 litres/min-rated pumps — and added fire pump redundancy.

Stott added: "Logan Clutch delivered a fully-engineered, turnkey FPTO clutch and overhung load adapter application, which has proven performance on three individual Moose Boats M2 catamaran projects to date: Sandwich Fire and Rescue, West Pierce Fire and Rescue and Richmond Fire Department here on San Francisco Bay."



**QSB 6.7 with Logan PTO 600 Front Mount Kit.**



**The Sandwich Fire and Rescue boat displaying the outstanding fire-fighting flow of the Logan PTO.**

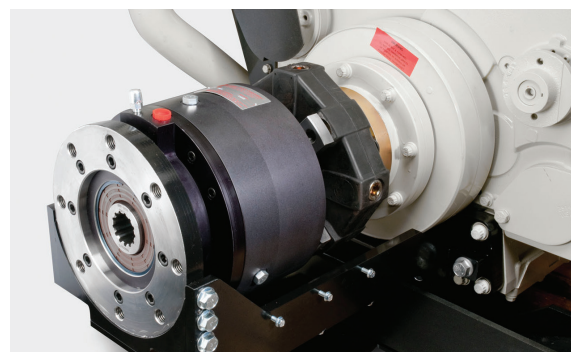
## Technical specification

### Logan SAE PTO 600

- Air or fluid actuated.
- Maximum torque up to 912 ft-lb/1,237 Nm, and 600 ft-lb/ 813 Nm of continuous duty torque.
- Integrated Centaflex A torsional isolation coupling.
- Engagement up to 1,800 rev/min with optional soft-start.
- Installs in minutes with simple hand tools.
- Engineered mounting bracket for precise alignment.

### Cummins QSB 6.7

- Full-rated power capability for every engine up to 480hp.
- SAE and metric mounting flanges available.



**Logan 600 series, direct-drive PTO with Centaflex coupling and engineered Logan bracket.**



**Logan Clutch Corporation®**  
manufacturers of clutches and brake products

28855 Ranney Parkway • Cleveland, OH 44145  
800-525-8824 • sales@loganclutch.com

[www.loganclutch.com](http://www.loganclutch.com)

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