Cat® Hydraulic System Support







There *is* a difference in hydraulic system components and services.

Customer demand for faster, more powerful equipment has resulted in the increased use and sophistication of hydraulics.

With a growing portion of equipment operating costs linked to the hydraulics, decisions regarding hydraulic system maintenance and repair are more important than ever before. Cat dealers are uniquely skilled and equipped with superior parts and components, system management expertise, and more repair options to help today's machine owners achieve maximum equipment productivity for the lowest possible cost.

CATERPILLAR®

SUPERIOR PARTS & COMPONENTS

Caterpillar® designs and manufactures hydraulic components to work as a system to meet the unique demands of Cat® equipment. High quality materials, carefully controlled manufacturing processes, and the industry's most rigorous testing help Cat hydraulic components deliver maximum performance and value over the life of equipment.

HOSE AND COUPLINGS

Designed and manufactured by Caterpillar

Cat Hose and Couplings dispel the notion that "a hose is a hose." Since Caterpillar began designing and manufacturing its own hose products in the late 1960s, Cat Hose and Couplings have earned a global reputation for offering superior hose performance and reliability.

Exceed Industry Standards

Many Cat hose standards exceed industry requirements, helping to assure top performance and value. For example, Cat requires its MSHA-approved XT™-3 ES Hoses to survive one million impulse test cycles – twice the SAE requirement.

System-matched for top performance

Cat Couplings are engineered and tested with Cat Hoses as a system to yield maximum performance in a wide range of applications.

CYLINDERS AND CYLINDER SEALS

Bore skived and roller burnished for optimum sealing performance

Cat uses these manufacturing processes to produce a highly symmetrical bore with a surface finish that provides optimum seal life.

Seals matched to the application

Cat Cylinder Seals feature proprietary materials and continuously improving designs matched to Cat hydraulic system needs.

CYLINDER RODS

Inertia welded for unmatched strength

The critical rod-eye joint on most new and Cat Reman Rods features a continuous bond that's free of voids associated with arc welding.

Induction hardened for added toughness

Most new and Cat Reman Rods are induction hardened to deliver the optimum balance of strength, surface finish and impact resistance. Greater resistance to denting and bending helps extend seal life and keep dirt and other contaminants from entering the system.

PUMPS AND MOTORS

Precision manufactured for peak system performance

Cat Pumps and Motors are built to tight tolerances and are 100% tested to match stringent Cat hydraulic system performance and endurance requirements.

VALVES

Precision machined for superior operator control

State-of-the-art manufacturing technologies enable Cat Valves to deliver superior machine performance and operator control.

FILTERS

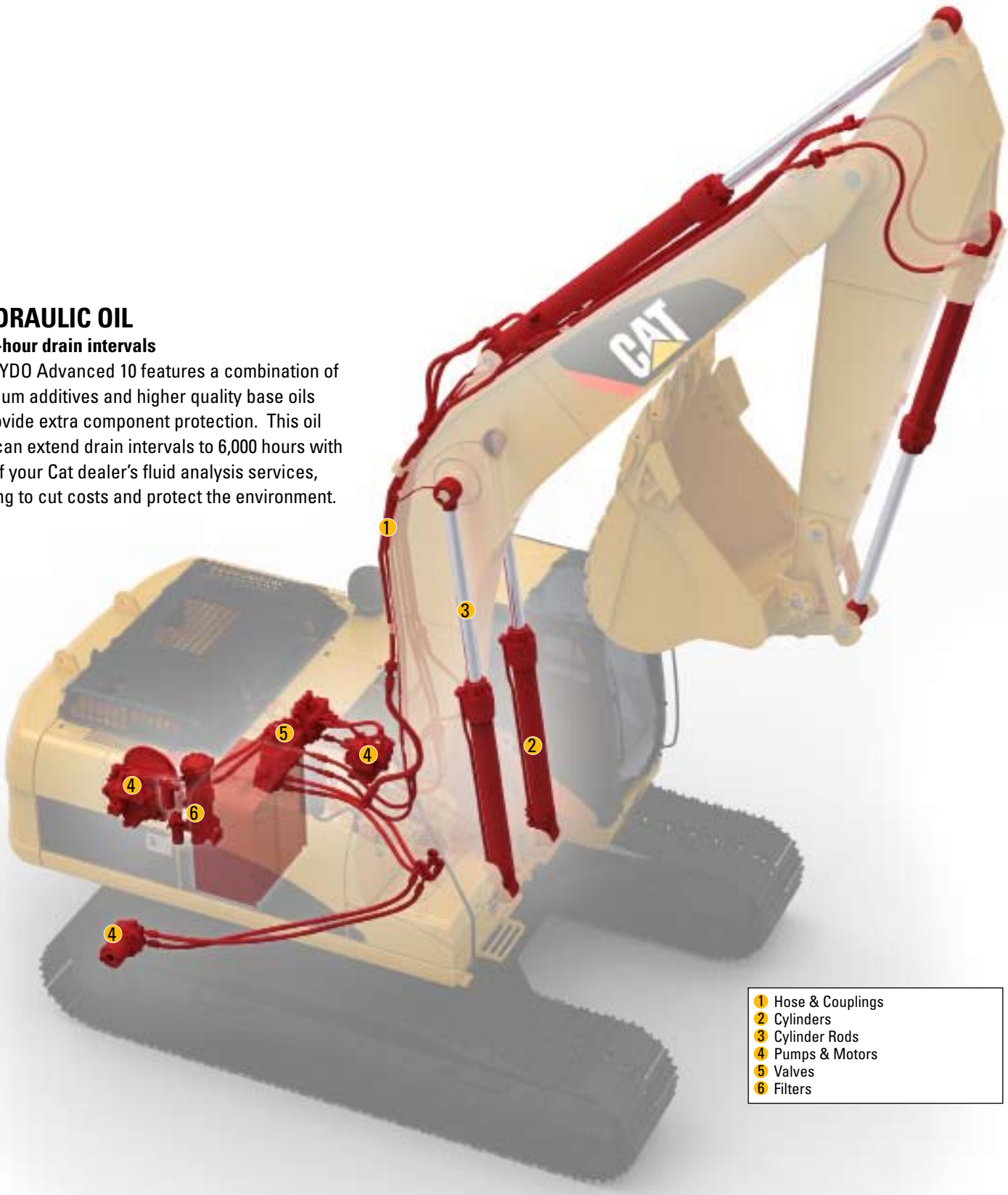
Clean hydraulics extend component life

System cleanliness is critical to hydraulic component life and performance. Cat Filters are engineered to deliver superior system protection, helping you obtain maximum component life.

HYDRAULIC OIL

6,000-hour drain intervals

Cat HYDO Advanced 10 features a combination of premium additives and higher quality base oils to provide extra component protection. This oil also can extend drain intervals to 6,000 hours with use of your Cat dealer's fluid analysis services, helping to cut costs and protect the environment.



1 Hose & Couplings
2 Cylinders
3 Cylinder Rods
4 Pumps & Motors
5 Valves
6 Filters

HYDRAULIC SYSTEM MANAGEMENT

Effective management of the hydraulic system helps keep machines at peak productivity while minimizing downtime and operating cost. Cat dealers offer three integrated services to help keep hydraulic systems operating at peak performance.

CONTAMINATION CONTROL

Next to having a good preventive maintenance program that follows Caterpillar guidelines, keeping hydraulic oil clean is the best way to lower costs and maintain top hydraulic system efficiency. Industry studies show fluid contamination causes 75 to 85 percent of all hydraulic component failures.

During maintenance and service, Cat dealers employ a wide range of procedures to help prevent dirt and other contaminants from entering today's hydraulics and other fluid systems. They're also equipped to quickly and efficiently restore contaminated systems to Caterpillar cleanliness standards.

Ask for a copy of our Hydraulic System Management Guide (PEGP6028.) It discusses a disciplined approach to contamination control covering oil storage and transfer, equipment operation, parts storage, attachment changes, general maintenance and more.

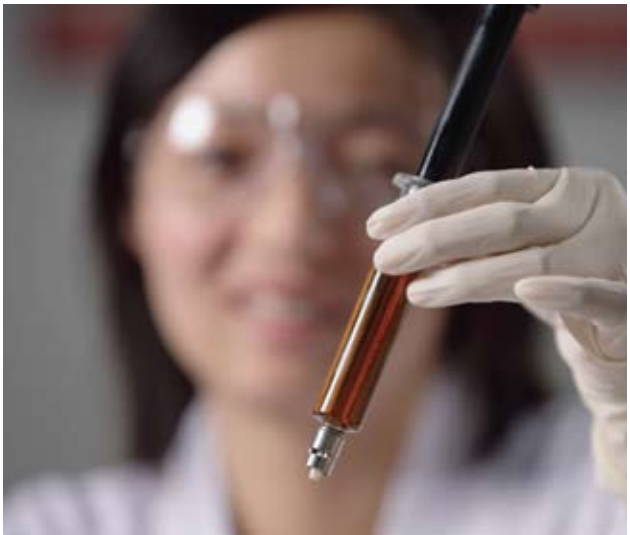
S•O•S℠ SERVICES

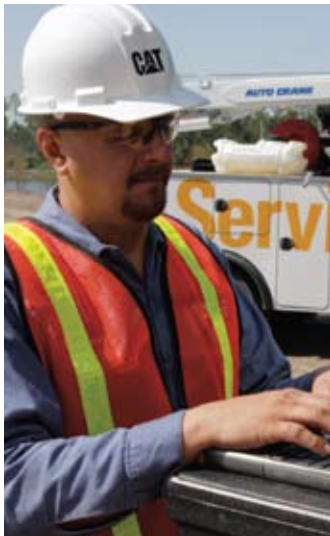
The best way to monitor contamination and the overall health of your hydraulic system is to use your Cat dealer's S•O•S Services. Regular fluid sampling identifies problems early and helps you head off major repair expenses.

Caterpillar engineers and chemists have developed oil analysis tests to evaluate not just the oil, but also the condition of hydraulic components. Our skilled technicians interpret the findings and can quickly diagnose problems more accurately than independent oil labs.

Test results and recommendations are usually available within 24 hours, and often sooner via our dealer website.







TECHNICAL INSPECTIONS

Because hydraulic system efficiency loss occurs slowly, even experienced operators can't detect a loss until it reaches 20 percent or more. That's why Caterpillar recommends hydraulic-intensive machines undergo a detailed hydraulic system inspection every 12 months or 2,000 hours.

Performed on-site by a Cat dealer technician, this inspection includes an engine performance test, checks of hydraulic system pressures, implement cycle times and drift, plus a visual walkaround inspection. All results are compared against new machine specs and a report is issued with corrective action recommendations.

HYDRAULIC SYSTEM MANAGEMENT TIPS

- Check hydraulic fluid levels and inspect for leaks and damaged hoses daily
- Fix leaks promptly
- Follow recommended oil/filter change intervals
- Sample hydraulic fluid every 500 hours or sooner, and "kidney loop" fluid as needed
- Use Cat Ultra High Efficiency Filters after any system invasion
- Filter new oil from bulk containers using clean and capped lines
- Use barrel covers to protect stored oil
- Keep parts in the original packaging until installation
- Have your Cat dealer check hydraulic system pressures, cycle times and drift every 2,000 hours, or when S•O•S Services indicate high contamination levels



We can help you set up a regular maintenance program that includes S•O•S Services and "kidney looping" to extend oil change intervals.



FAST, DEPENDABLE REPAIR SERVICE

No matter how well built or managed, your hydraulic system eventually will need service.

When it does, you can trust your Cat dealer's combination of repair options, service expertise

and the industry's best parts support to get you back to work fast and reliably.

HOSE SERVICE

When you need a hose, you usually need it now. Your Cat dealer has the tooling, information and expertise to build replacement hoses fast and reliably.

Unmatched Convenience

Caterpillar prints the assembly part number on a metal band on factory-installed hoses. This number allows us to retrieve all the needed information to immediately begin building a duplicate. If you phone us with this number – or order it online via the Cat PartStore™ System, we usually can have a replacement ready by the time you arrive to pick it up.

Quality Assurance

Our hose shop also is committed to quality. Besides using superior Cat hose products designed and manufactured by Caterpillar, our assemblers:

- Use foam projectiles to pneumatically remove contaminant particles that can damage other system components
- Carefully measure coupling crimp diameters to make sure they're within specification
- Cap the ends of completed assemblies to help prevent contaminant entry up to installation

CYLINDER SERVICE

From reseals to rebuilds and exchange, we offer a range of competitively priced repair options to keep your costs and downtime to a minimum.

Reseal with Light Honing

Our standard reseal service includes light honing in addition to genuine Cat seals and seal kits. This relatively quick procedure performed in our shop removes scratches and other minor cylinder bore damage to improve cylinder performance and ensure you get the full life from the new seals.

Seal Kits

Caterpillar seal kits package all the genuine Cat seals for a reseal or repair under one part number for fast and easy servicing – and they're priced less than the sum of the individual seals.

Quality Assurance

After honing, we wash cylinders to remove contaminants. Reassembled cylinders are pressure tested to make sure they're free of external and internal leaks.







PUMP AND MOTOR SERVICE

Our comprehensive pump and motor service includes expert repair, rebuild and testing. Repairs are fast and economical with options that let you match the repair to your situation.

Replacement Parts

In addition to piece parts, we stock cartridges for vane pumps and rotating groups for piston pumps and motors that permit quick replacement of high-wear items.

Cat Classic™ Pumps

If you own older Cat equipment, Cat Classic™ Parts may be just what you need. These new Cat gear pumps offer a quality alternative when the age, application or utilization of your equipment calls for a more economical repair.

CAT CERTIFIED HYDRAULIC REBUILD

Sometimes the hydraulics on excavators wear out before the rest of the machine. In these instances, the best repair option might be a Cat Certified Hydraulic Rebuild. This involves completely disassembling and rebuilding the hydraulic system with new and/or Reman components. Critical engineering updates are included to restore the hydraulics to like-new performance, reliability and durability.

EXCHANGE / CAT® REMAN PRODUCTS

When turnaround is critical, exchange may be the best option. We stock a broad inventory of Cat® Reman Hydraulic products and dealer rebuilt components to get you back to work fast and reliably.

Available off-the-shelf for most Cat applications, Cat Reman components are fully remanufactured to like-new condition. They provide same-as-new performance and reliability at fraction-of-new prices* — while reducing the impact on the environment. All Cat Reman parts and components are backed by the Cat new parts warranty.

Cat Reman Hydraulic Parts and Components include:

- Cylinders
- Cylinder Rods, including front suspension rods for off-highway trucks
- Pump and Motor Groups
- Pump and Motor Parts

* Your price is based on the condition of the core.



Cat dealer technicians use established contamination control procedures to help ensure repaired components meet Caterpillar cleanliness specifications.



Cat® Hydraulic System Support

COMMITTED TO YOUR SUCCESS

No one knows Cat hydraulics like we do. Whether it's troubleshooting, locating the right part, recommending the best repair option — or something in between, your Cat dealer understands the importance of keeping your equipment operating reliably on the job. Call or visit us today to learn more about our comprehensive hydraulics support services that reflect our commitment to your success. We hope you'll take time to compare the differences:

	Cat Dealer	Other Provider	Other Provider
Genuine Cat parts	✔	☐	☐
Off-the-shelf availability of Exchange/Cat Reman Parts and Components	✔	☐	☐
Cat Classic™ Gear Pumps for older Cat equipment	✔	☐	☐
Trained Cat dealer technicians	✔	☐	☐
Hose assembly service with single part-number convenience	✔	☐	☐
"Certified Clean" and "Certified Crimp" hose service	✔	☐	☐
Cylinder, pump and motor reconditioning	✔	☐	☐
Cylinder honing with reseal service	✔	☐	☐
Quality assurance through the testing of serviced components	✔	☐	☐
Cat Certified Hydraulic Rebuild	✔	☐	☐
Caterpillar technical support	✔	☐	☐
Field service	✔	☐	☐
S•O•S Services including Particle Count	✔	☐	☐
Commitment to contamination control	✔	☐	☐
Equipment troubleshooting and inspection programs	✔	☐	☐
24/7 online parts ordering — Cat PartStore System	✔	☐	☐
The industry's best parts network	✔	☐	☐
Customer Support Agreements	✔	☐	☐

CAT® DEALERS DEFINE WORLD-CLASS PRODUCT SUPPORT.

We offer you the right parts and service solutions, when and where you need them.

The Cat Dealer network of highly trained experts can help you maximize your equipment investment.



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www.cat.com

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TODAY'S WORK. TOMORROW'S WORLD.™