

THE POWER BEHIND VEHICLE PERFORMANCE

Earthmoving, Agriculture, Construction, Mining,
Forestry, Utility and Material Handling.



EATON FLUID POWER SYSTEMS

EAT•N

Table of Contents

	Eaton: A Global Leader	1	
	Eaton Systems Thinking	2	
	Earthmoving	4	
	Agriculture	6	
	Construction	8	
	Mining	10	
	Forestry	12	
	Utility	14	
	Material Handling	16	

The Waterbury Tool Division of Sperry Corporation, later to become part of Vickers Incorporated, created the first hydraulic installation on the Navy's U.S.S. Virginia battleship where variable speed piston transmissions were used to elevate and train the guns.

Birth of Vickers mobile business with the successful application of the first balanced vane steering pump for Cadillac.

Introduced hydraulic snow plow blade control.

Waterbury Tool became a Division of Vickers, Incorporated.

By 1940 Vickers, was recognized as a leading manufacturer of hydraulics for construction, oil drilling and mining applications as well as in a variety of other industries.

Vickers acquired Tulsa Winch Manufacturing Co., and broadened its presence in the petroleum, forestry, mining and construction markets.

1906

1925

1930

1937

1940

1946

EATON IS A GLOBAL LEADER IN MOBILE HYDRAULICS.



Since the very first time hydraulic systems were used in mobile equipment that moved earth, plowed crops, built highways, dug trenches and loaded materials, Eaton fluid power was there. Today, Eaton is a global leader in designing and manufacturing complete fluid power systems that move the world's most powerful mobile machinery.

Vickers acquires German gear pump manufacturer Maschenfabrik Friedrich Reichert GmbH.

Daimler-Benz recognized Vickers outstanding supplier performance during the past 25 years by accepting the five-millionth power steering pump.

Sturman/Vickers LLC joint venture formed to develop and deploy cutting-edge electrohydraulic technology for the mobile market.

Vickers acquired Modular Controls Corp. in Villa Park, IL. The new addition designs and manufactures a broad range of screw-in-cartridge-type hydraulic valves and manifolds.

Bad Homburg plant manufactured the three-millionth power steering pump for Daimler-Benz.

Vickers Japan Ltd. joint venture formed with Komatsu and Komatsu Zenoah.

Vickers Mobile Division introduces the G20 gear pump.

1971 1973

1983 1986 1988

1997

PUT EATON “SYSTEMS THINKING” TO WORK FOR YOUR MOBILE APPLICATIONS.

From individual products to complete block designs, Eaton has the products and expertise to provide complete fluid power system solutions.

With manufacturing and design locations around the world, we “speak your language.” Our system engineers understand your vehicle needs as well as regional differences.

So whether you design, build or maintain equipment for earthmoving, agriculture, construction, mining, forestry, utility or material handling, Eaton has dedicated resources to serve your market and provide unmatched expertise in vehicle functionality.

Choose Eaton — for “systems thinking” that will maximize the performance of your mobile applications.



From initial design conception through prototype field testing and production, the Eaton team works to provide complete mobile systems that perform in your most demanding applications.



PRODUCTS	MARKETS	Earthmoving	Agriculture	Construction	Mining	Forestry	Utility	Material Handling
Pumps								
Variable (piston)		•	•	•	•	•	•	•
Fixed (gear & vane)		•	•	•	•	•	•	•
Motor pumps					•		•	•
Hydrostatic transmissions		•	•	•	•	•	•	•
Actuators								
Linear		•	•	•	•	•	•	•
Rotary (variable & fixed)		•	•	•	•	•	•	•
Controls								
Directional		•	•	•	•	•	•	•
Cartridge		•	•	•	•	•	•	•
Remote		•	•	•	•	•	•	•
Pressure		•	•	•	•	•	•	•
Flow		•	•	•	•	•	•	•
Motion		•	•	•	•	•	•	•
Proportional		•	•	•	•	•	•	•
Manifold		•	•	•	•	•	•	•
Fluid conditioning								
Filtration (pressure & return)		•	•	•	•	•	•	•
Debris monitoring & collection systems		•	•	•	•	•	•	•
Other								
Swivel		•		•		•	•	
Systems		•	•	•	•	•	•	•
Power units		•	•	•	•	•	•	•



Earthmoving

RELIABLE PERFORMANCE IN THE FIELD.

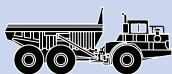
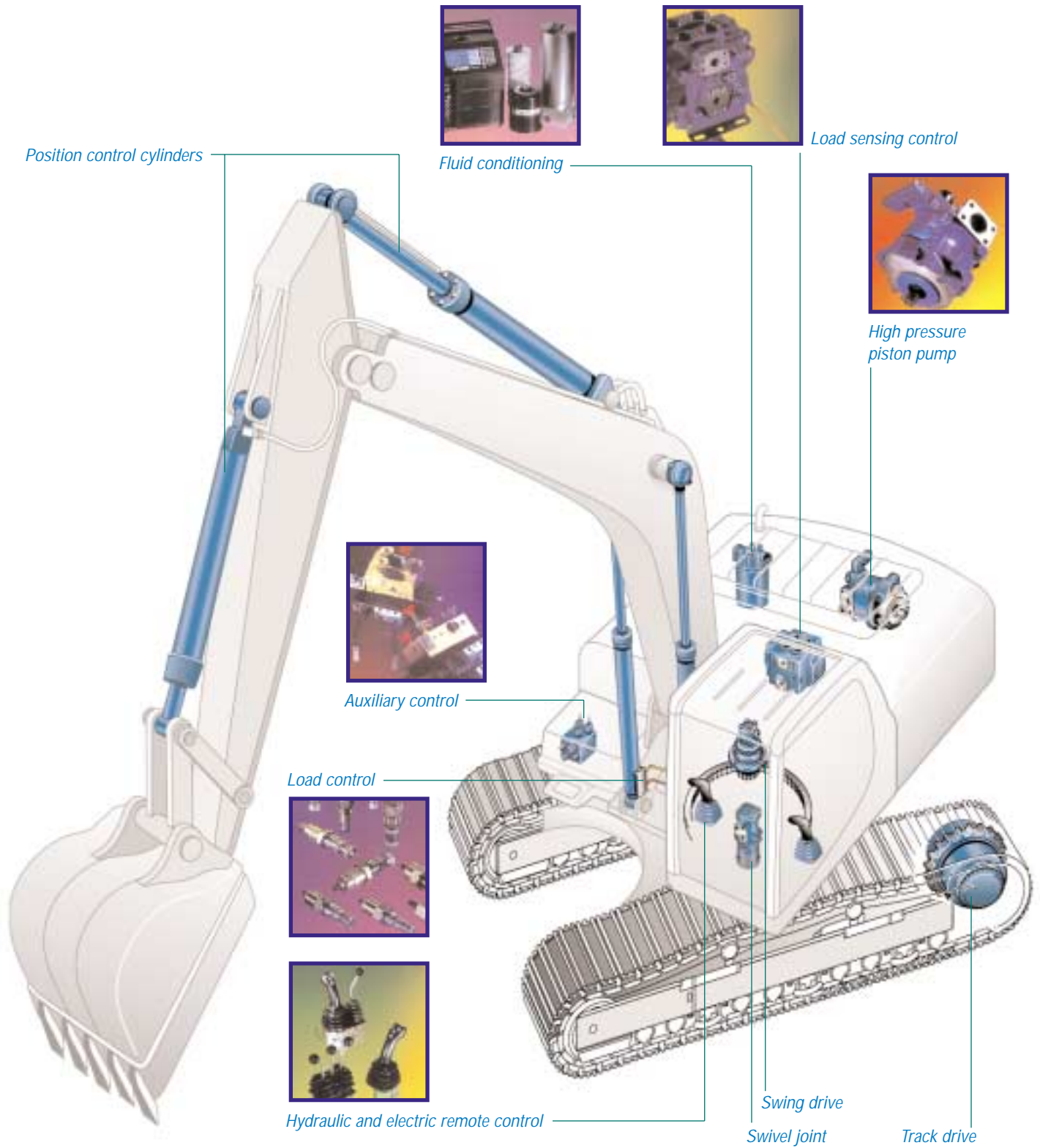


On major earthmoving projects around the world, you'll find Eaton job-proven hydraulics hard at work. You will find Eaton hydraulic systems on equipment utilized in balancing the site, setting manholes, cutting trenches, breaking rock, and in all facets of general dirt and rock excavation. What's more, Eaton components and systems have been providing and controlling the muscle in these activities worldwide for more than 75 years.

Contractors and their machinery manufacturers understand that Eaton unmatched reliability is the key to profit. They know that Eaton "speaks" their language and designs products directly targeted for long life in the hostile world of rock and dirt. And, if a problem occurs, Eaton support is available locally, worldwide.

EARTHMOVING APPLICATIONS





Agriculture

MEETING THE DEMANDS OF A GROWING MARKET.



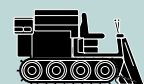
For most farmers, the weather is a gamble. Hydraulic systems used on agricultural vehicles and implements are routinely subjected to the harsh elements of the farm environment: sun, rain, dust and fertilizers. Farmers can't afford to gamble with their hydraulic systems. With Eaton, they don't have to. Eaton pumps, valves, cylinders, motors and controls are ruggedly designed, and provide reliable performance in the harshest of agricultural environments.

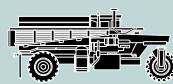
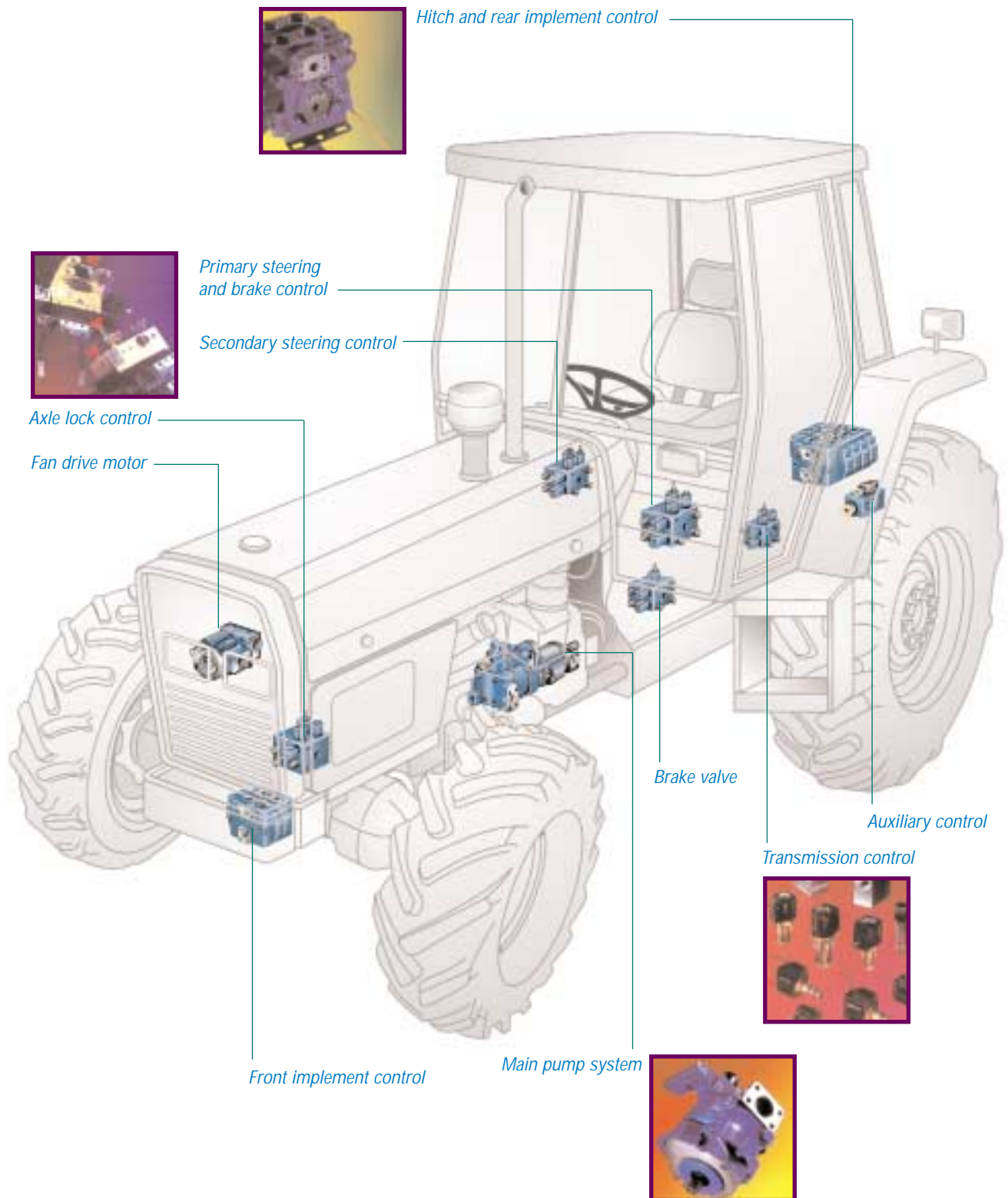


Eaton provides systems and components for hydraulic power and control of:

- Tractors
- Combines
- Harvesters
- Balers/wrappers
- Windrowers
- Planters
- Drills/seeder
- Sprayers/spreaders/applicators
- Foragers
- Flails/cutters/mowers

AGRICULTURAL APPLICATIONS





Construction

THE SYSTEMS THAT BUILD BETTER.



Reliability and speed are the keys to success on any construction site. In today's world, production schedules are tighter than ever with far less slack allowance available for unplanned downtime. The vehicle's hydraulic system is expected to perform correctly and on time, every time. That's why Eaton piston and vane pumps have been used on leading construction machines for more than 75 years.

Eaton hydraulic system control technology has helped set new standards for performance and reliability. Eaton components have logged millions of hours operating in demanding construction environments. Our engineers fully understand the temperature, dust, and water demands construction machines must deal with on a daily basis. Eaton components are designed to meet your needs for positional and load locking. And they're designed to withstand

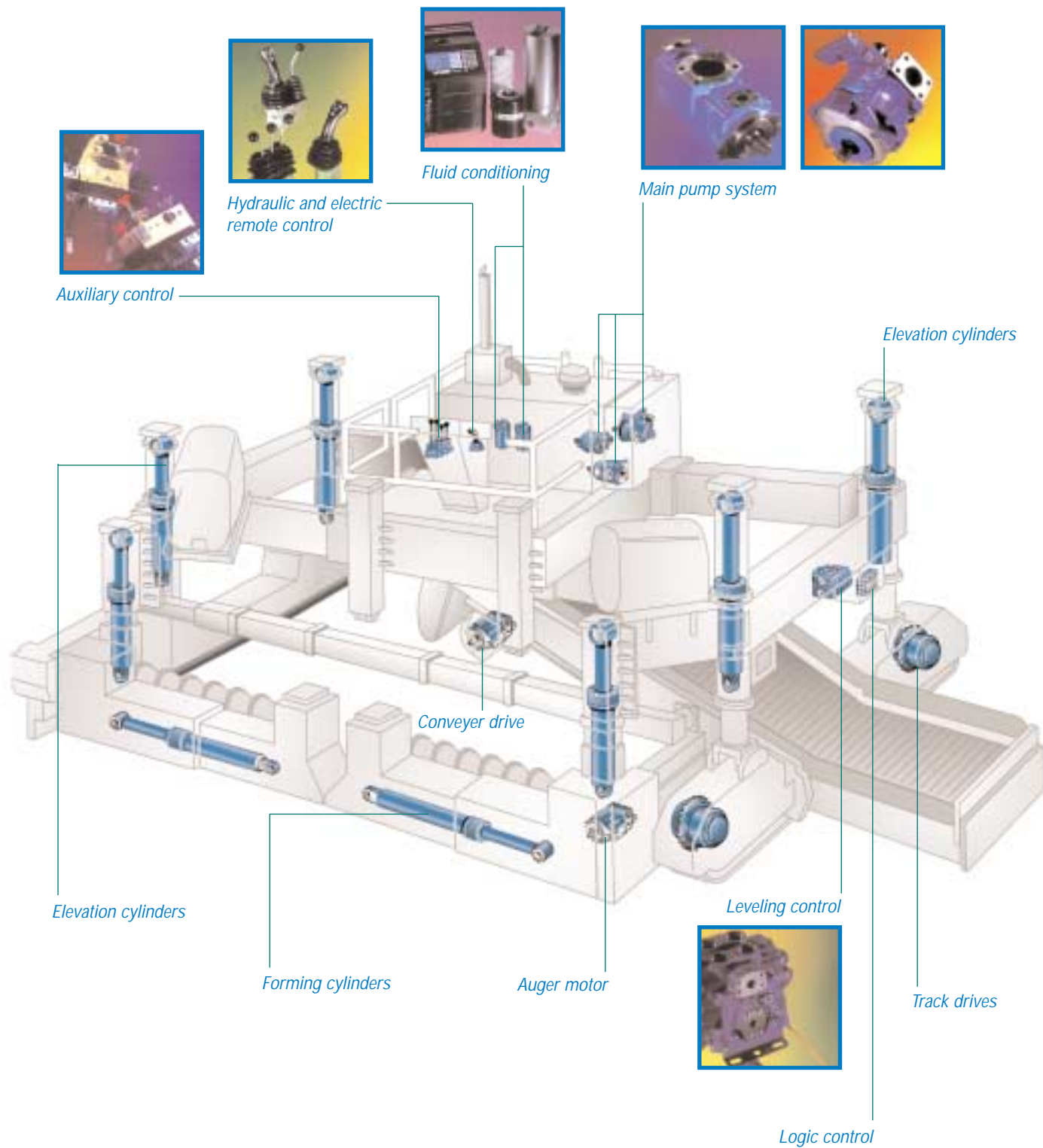


vibration, "G" forces, and EMI. Most importantly, Eaton does more than design products. Eaton designs "system solutions."

You'll find Eaton power and motion control systems hard at work on leading construction vehicles around the world including soil stabilizers, cranes and concrete placing equipment.

CONSTRUCTION APPLICATIONS





Mining

RELIABILITY FROM TOP TO BOTTOM.



A profitable mining operation is generally considered to be the ultimate ballet of men and machines. The operating environment is typically among the most dangerous in industry. Unlike other mobile segments, vehicles in this sector follow precise minute-by-minute production schedules.....often around the clock, 365 days per year.

A machine breakdown on an overburdened bench just minutes ahead of the next planned shot, or just as the key pillars are removed in an underground room and pillar section, is both dangerous and costly. That's why you'll find Eaton fluid power systems on key applications throughout the industry. Our application engineers and component designers know and understand the harsh environment and rigorous duty cycle encountered in mining. Eaton has been the standard for years on the really tough applications, some of which log more than 7,000 hours per year!

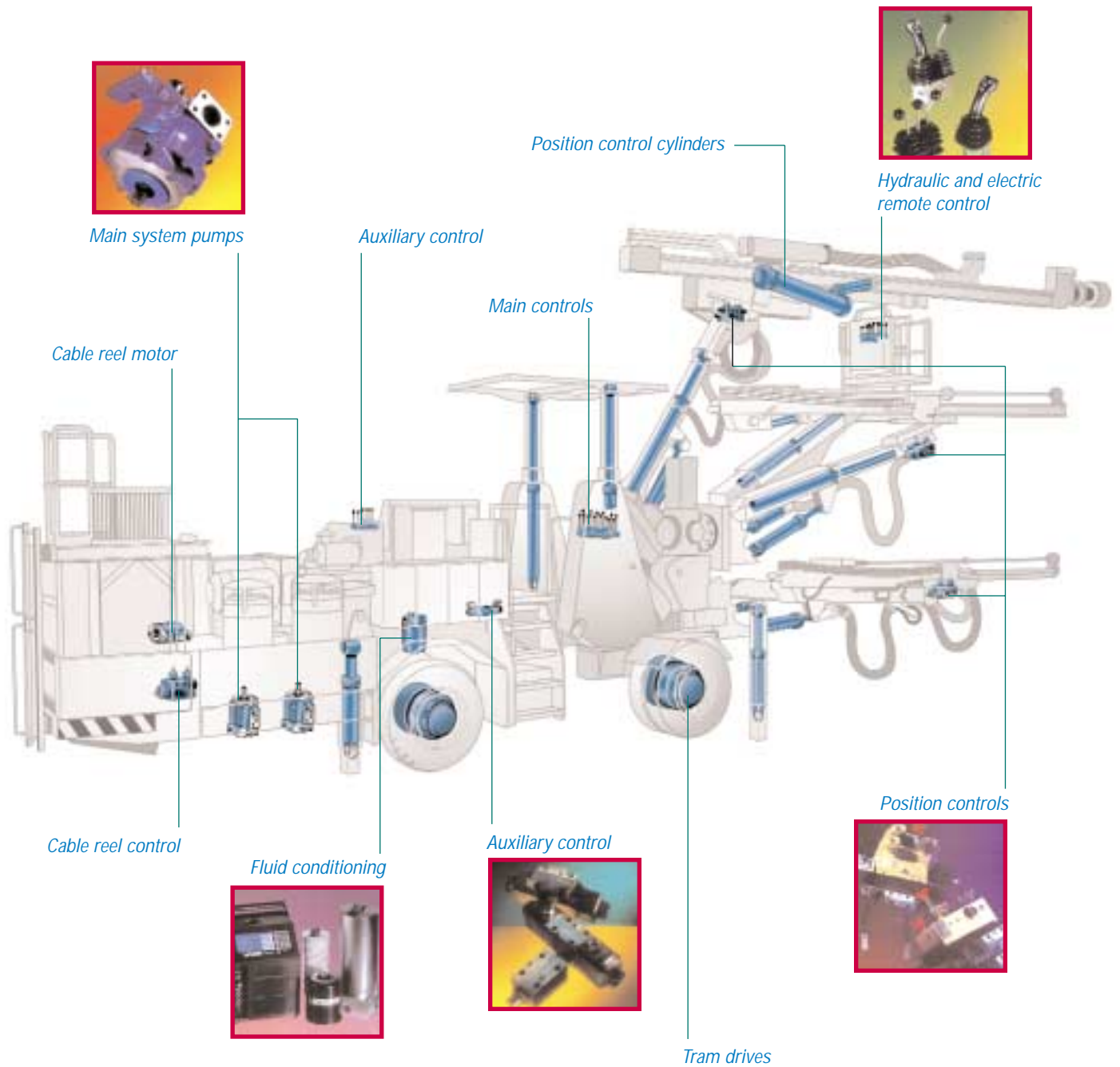
You'll find Eaton equipment providing and controlling the hydraulic muscle around the world in all types of mines — from coal to taconite. And you'll find Eaton at all depths — from Chilean copper pits 16,000 feet above sea level to the depths of a South African gold mine 11,000 feet underground. Specific applications include:

- *Crawler blasthole drills*
- *Continuous miners*
- *Wheel loaders*
- *Dual arm roof bolters*
- *Front hydraulic shovels*
- *ANFO trucks*
- *Rigid haulers*
- *Scalers*
- *Coal shears*



MINING APPLICATIONS





Forestry

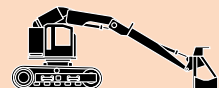
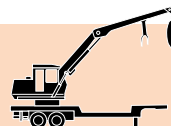
PRODUCTS FOR THE LONG HAUL.

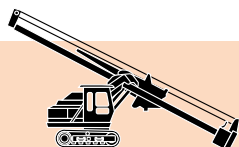
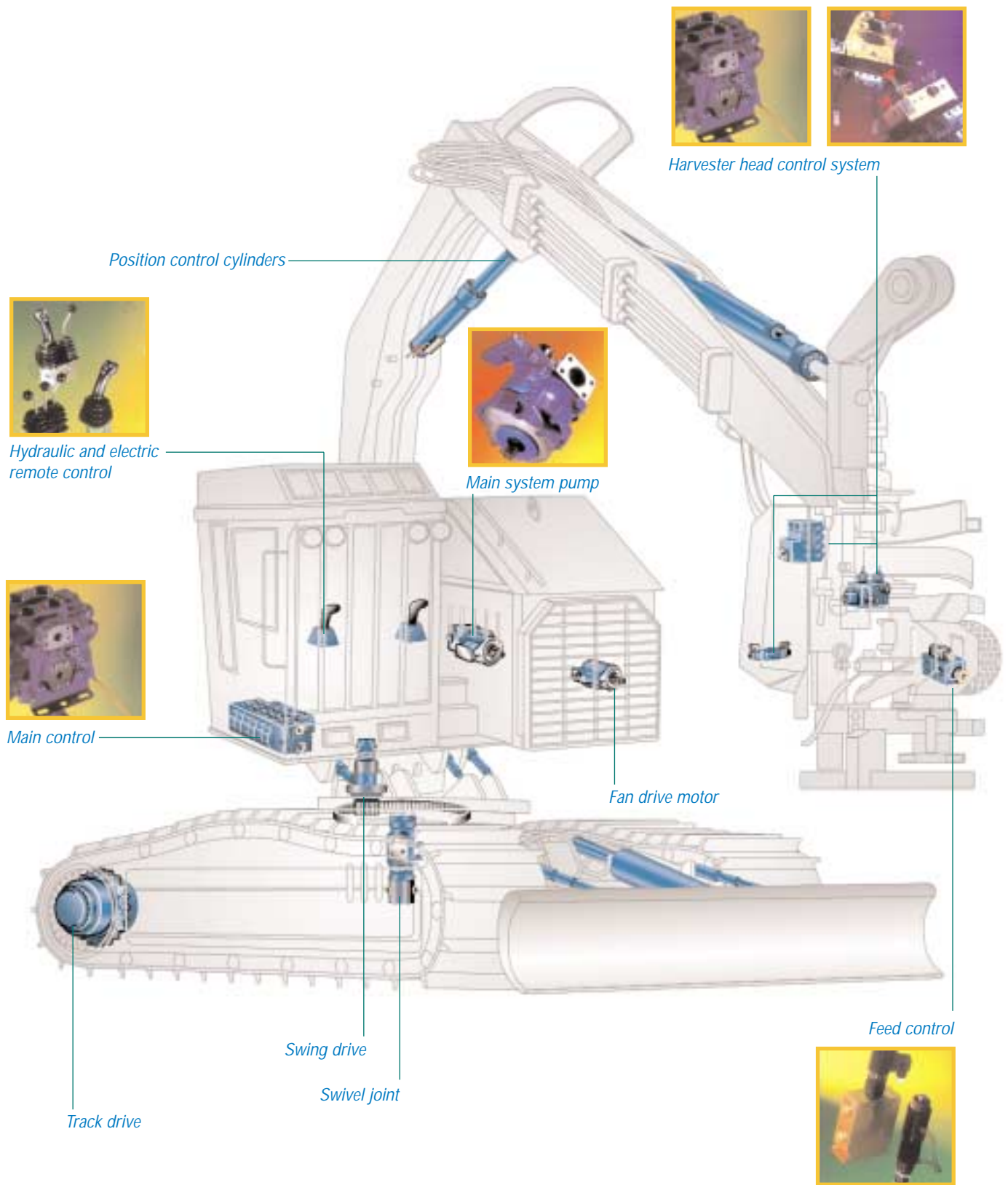
In close cooperation with major OEMs, Eaton has pioneered control packages that provide highly efficient harvester head control. Our ability to take what's best for you from our large array of solutions allows us to provide the right package to meet your needs.

Years of experience in the forestry market make us the number one choice when it comes to motion control. Using our patented Valvistor™ controls, we control saw blade acceleration and deceleration to very fine limits, allowing highly productive operation of the harvester.



FORESTRY APPLICATIONS





Utility

TAKING RELIABILITY TO NEW HEIGHTS.

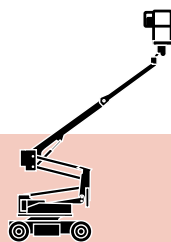
Utility and construction fleet managers and service personnel rely on rugged and reliable hydraulic system performance in many rigorous applications: installing telephone or video cables; stringing high voltage power lines; constructing and repairing utility poles; installing and maintaining traffic signals and street lighting. A vehicle's hydraulic system performance should be the last thing on a service technician's mind. And it is — with Eaton reliable hydraulic systems. Fleet managers and service personnel rely on the rugged performance of Eaton hydraulic systems to get the job done.

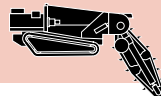
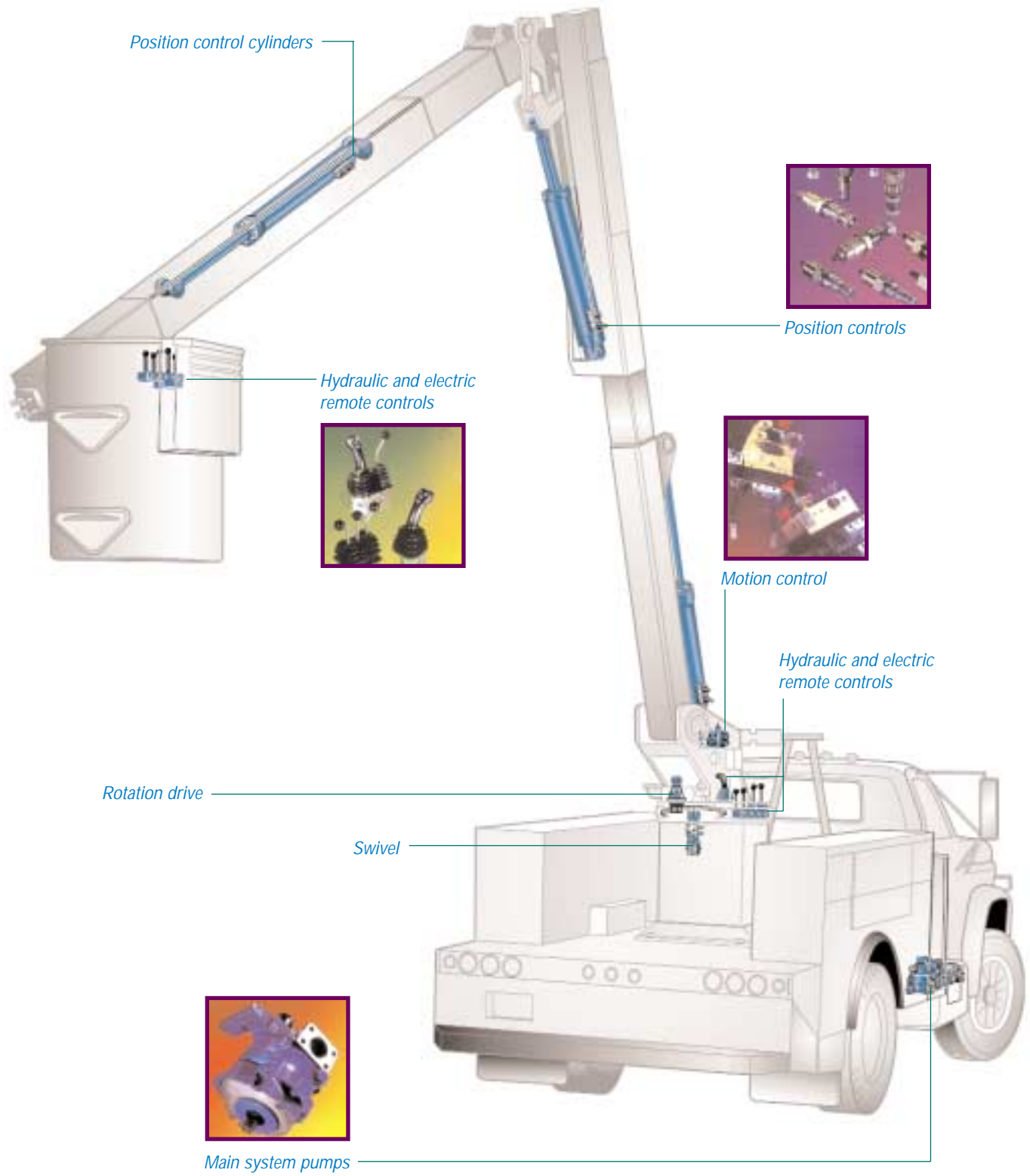


Eaton covers your utility vehicle hydraulic system requirements, including:

- Boom cylinders and locking valves
- Lift/lower control valves
- Main system pumps
- Rotary swivels
- Hydraulic and electric remote controls

UTILITY APPLICATIONS



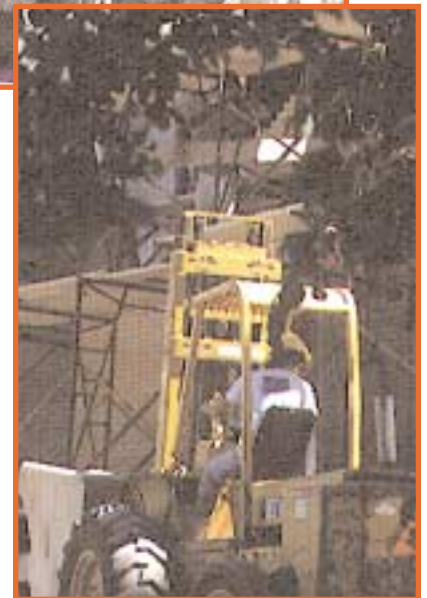


Material Handling

TAKING THE CONSTANT UPS AND DOWNS.

When it comes to precise control packages, Eaton is the supplier of choice at many of the world's largest material handling OEMs. Our expertise lies in combining proven technologies, like our patented Valvistor™ flow controls, with custom packaging to meet your exact requirements cost-effectively. We provide solutions to all regions of the globe where control and conformance to local legislation is a top priority.

Whatever pump solution your application requires — gear, vane or piston — we have a full complement of products and ideas to meet your needs.



MATERIAL HANDLING APPLICATIONS





Hydraulic and electric remote controls

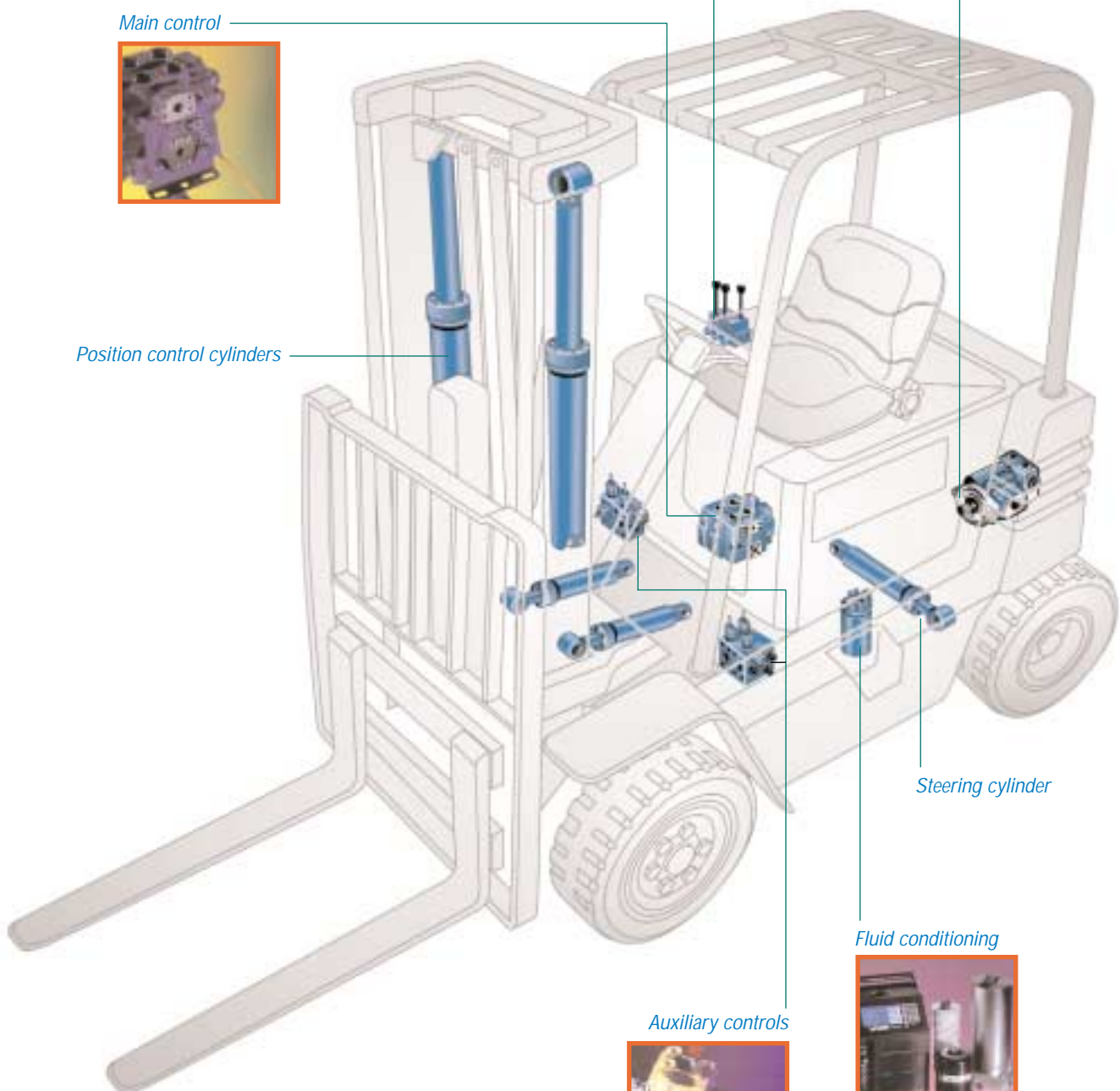


Main system pump

Main control



Position control cylinders



Steering cylinder

Fluid conditioning



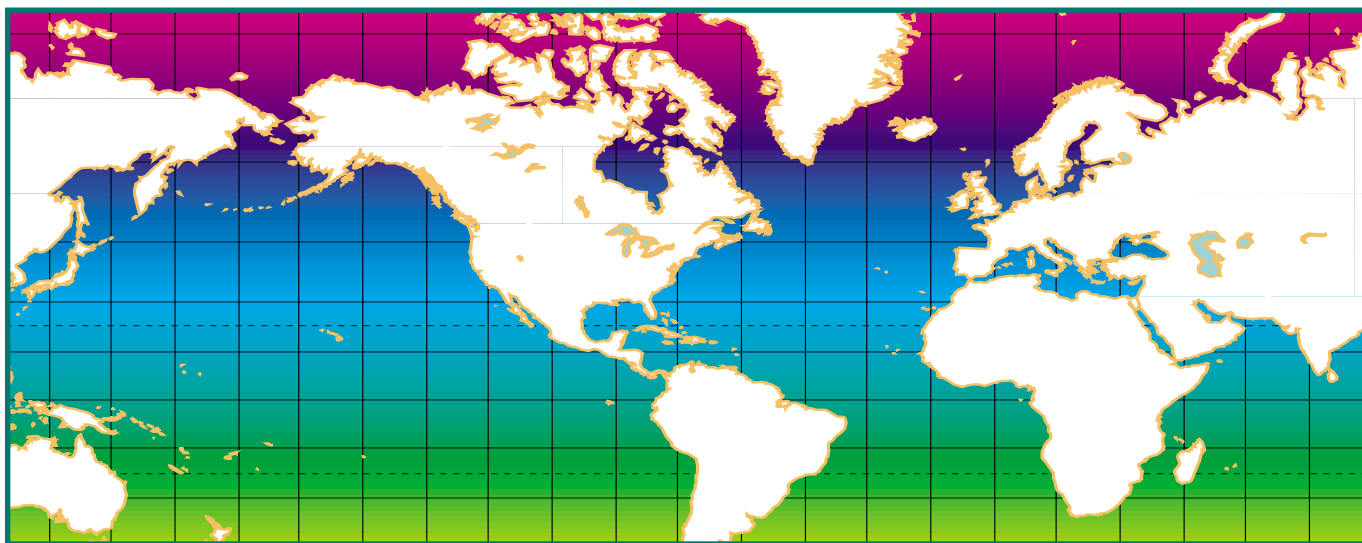
Auxiliary controls



EATON. A GLOBAL LEADER.

Eaton, Incorporated is a recognized leader providing international markets with advanced technology fluid power and motion control components, packages and systems. With a network of manufacturing facilities, sales offices and distributors that spans the globe, Eaton provides a wide range of technology, experience and service.

Eaton has more than 7,100 employees with worldwide manufacturing/assembly facilities, and sales and service locations on every continent. Because of our global presence, Eaton power and motion control components, packages and systems are currently specified in 61 nations.



<i>Argentina</i>	<i>Costa Rica</i>	<i>Germany</i>	<i>Israel</i>	<i>Morocco</i>	<i>Peru</i>	<i>Slovakia</i>	<i>Thailand</i>
<i>Australia</i>	<i>Croatia</i>	<i>Greece</i>	<i>Italy</i>	<i>Netherlands</i>	<i>Philippines</i>	<i>Slovenia</i>	<i>Turkey</i>
<i>Austria</i>	<i>Czech Republic</i>	<i>Hong Kong</i>	<i>Japan</i>	<i>New Zealand</i>	<i>Poland</i>	<i>South Africa</i>	<i>United Arab Emirates</i>
<i>Belgium</i>	<i>Denmark</i>	<i>Hungary</i>	<i>Jordan</i>	<i>Norway</i>	<i>Portugal</i>	<i>South Korea</i>	<i>United Kingdom</i>
<i>Brazil</i>	<i>Egypt</i>	<i>Iceland</i>	<i>Lebanon</i>	<i>Pakistan</i>	<i>Puerto Rico</i>	<i>Spain</i>	<i>United States of America</i>
<i>Canada</i>	<i>Ecuador</i>	<i>India</i>	<i>Luxembourg</i>	<i>Panama</i>	<i>Romania</i>	<i>Sweden</i>	<i>Venezuela</i>
<i>Chile</i>	<i>Finland</i>	<i>Indonesia</i>	<i>Malaysia</i>	<i>People's Republic of China</i>	<i>Russia</i>	<i>Switzerland</i>	
<i>Colombia</i>	<i>France</i>	<i>Ireland</i>	<i>Mexico</i>		<i>Singapore</i>	<i>Taiwan</i>	



Hydraulics

Eaton® **Vickers™** **Char-Lynn®**
Hydro-Line® **Air-Dro™** **Hydrowa™**