

## Overview

### Region

Washington, USA

### Industry

Forestry

### Customer Profile

JJ Welch Contracting and their experienced team of professionals are dedicated to rebuilding and maintaining forest logging roads while carefully balancing the preservation, protection and effective management of Washington's fragile streams and forest ecosystems.

### Business Situation

JJ Welch Contracting needed a multi-purpose jaw bucket to help them quickly and efficiently repair forest roads damaged by heavy rainfall as well as to perform general road maintenance and salmon stream restoration.

### Solution

JJ Welch Contracting installed PowerGrip on their Kobelco 200 excavator with extendable dipper stick and almost immediately saved 1.5 hours per day due to the efficiencies offered by PowerGrip Multi-Purpose Bucket.

## PowerGrip<sup>®</sup> Application Success Story

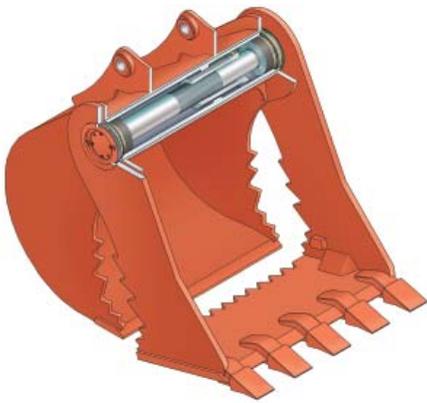
### JJ Welch Contracting Utilizes PowerGrip to Rebuild Forest Roads and Fragile Stream Habitats Ravaged by Record Rainfall

“With PowerGrip I am working faster and more efficiently than before – I am saving up to 1.5 hours per day and expect additional time savings down the road.”

— Jim Welch, Owner, JJ Welch Contracting

Substantial rainfall, up to eighteen inches in thirty-six hours, severely damaged many forest roads this winter around the Pacific Northwest. To make matters worse, many of these washed out roads span fragile native streams and rivers — home to several threatened or endangered trout and salmon species. Sediment was released into the stream beds causing serious damage to both individual fish and their stream habitats. Fortunately, the experienced team at JJ Welch Contracting have the right tools to rebuild these damaged roads and restore fragile stream habitats.





“In my opinion, the constant clamping force of the PowerGrip is the cat’s meow. The precision and control offered by PowerGrip in the distribution of material and placement of rock is a big advantage for us.”



— Jim Welch, Owner  
JJ Welch Contracting

## A Precision Tool that Outperforms Conventional Digging Buckets and Hydraulic Thumbs

Jim Welch, Owner of JJ Welch Contracting, has experienced the benefits firsthand of having the right tools to rebuild roads and



restore stream habitats. He uses a unique Kobelco 200 excavator with an extendable dipper stick to rebuild washed out road banks and stream habitats. The extendable dipper stick allows him to do more work

from the road avoiding the need to cut shelves into the land around the road. However, the extendable dipper stick was only one piece of the puzzle. He still needed the right attachment for rebuilding the road bank and stream habitat. After trying a conventional digging bucket and a hydraulic thumb, Jim found the optimal attachment from Helac Corporation with their PowerGrip Multi-Purpose Bucket. “In addition to saving up to 1.5 hours each day, I am utilizing my materials much better with the PowerGrip. I’m not dropping rock or mishandling material like with a conventional bucket or hydraulic thumb,” states Jim.

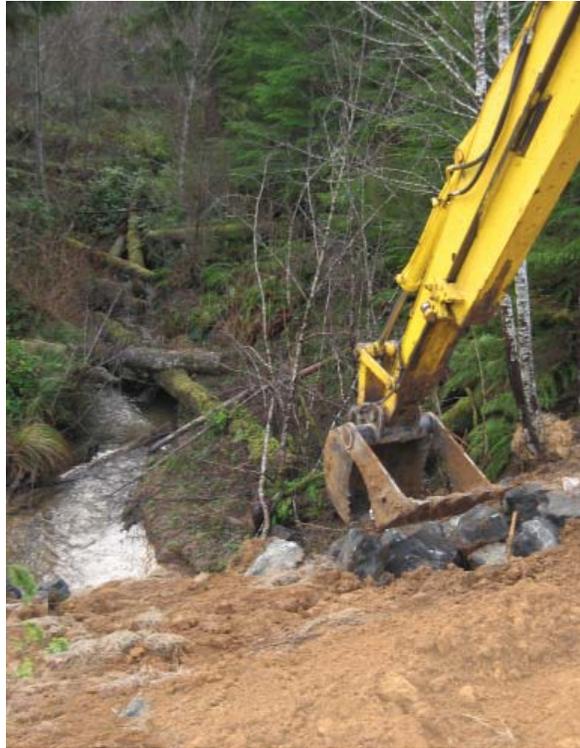
When Jim tried a conventional digging bucket, he found that he lacked optimal control of material placement — when he “rolled the bucket forward, all the material would tend to just dump out in a rush.” With PowerGrip, Jim can virtually eliminate material waste when he uses the smooth lip of the bucket to pile up the rock or material, and then use the clam functionality to pick up the materials he wants. The PowerGrip prevents us from picking up a lot of excess dirt with our rock which helps us gain efficiency through improved material utilization.”

When Jim utilized a hydraulic thumb on his smaller excavators, he discovered the thumb was less than ideal for placing rocks and other material since “the operator is required to keep constant pressure on the thumb to avoid dropping

“The PowerGrip is easy to maintain with just two zerks to worry about. With PowerGrip’s fully enclosed rotary actuator hinge, worrying about nicks, dings or debris contamination to exposed cylinders and rods is a thing of the past.”

— Jim Welch, Owner  
JJ Welch Contracting

rock prematurely.” With PowerGrip, the gripping action is accomplished by one circuit as opposed to two opposing circuits



found with a thumb. Having one circuit and an integral lock valve that hydraulically locks and holds objects in the jaw, PowerGrip allows Jim to pick up the material and place it anywhere he wants. “PowerGrip not only improves our efficiency – since any of our operators can use this solution – it’s also safer since there’s less risk of dropping material around the job site.”

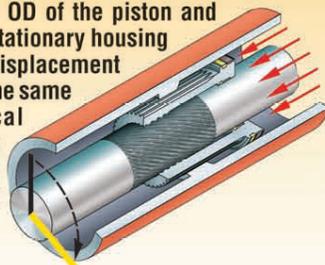
### A Durable, Maintenance Friendly Solution

Soon after Jim began using PowerGrip in the rainy Northwest region, he discovered that PowerGrip exceeded his expectations in terms of durability and lower maintenance.

“PowerGrip is easy to maintain with just two zerks to worry about. With PowerGrip’s fully enclosed rotary actuator hinge, worrying about nicks, dings or debris contamination to exposed cylinders and rods is a thing of the past.”

### Operation Technology

PowerGrip uses Helac’s sliding spline technology for its operation. This technology is composed of a tubular housing that is integrated into the bucket shell and two moving parts: a central through shaft, which is attached to the jaw, and a doughnut-shaped piston. As hydraulic pressure is applied, the gears on the OD of the piston and ring gear of the stationary housing force the axial displacement of the piston. At the same time, the helical gearing on the shaft and piston ID cause the shaft to rotate and operate the jaw.



PowerGrip is equipped with a durable, enclosed rotary actuator hinge that’s ideally suited for regions with heavy rainfall. With the rotary actuator hinge technology offering 120 degrees of jaw movement, there are no exposed cylinders and rods in the bucket shell or clam that can become polluted with debris, leading to attachment malfunctions. The rotating movement is generated by the massive rotating pivot point between the jaw

## For More Information

For more information about Helac Corporation's construction equipment attachments, call 800.797.8458. To access information using the World Wide Web, go to: [www.helac.com](http://www.helac.com).

and back of bucket that's designed with Helac's sliding spline operating technology, which converts linear piston motion into



powerful shaft rotation. The end caps, seals and bearings work in unison to keep debris and contaminants out of the inner workings of the actuator, prolonging life and reducing required maintenance. High strength, abrasion

resistant steel is used throughout for added durability.

### A Flexible Tool for Year-Round Use

With the variety of tasks JJ Welch Contracting required from their Kobelco 200 excavator, PowerGrip provided them with a flexible, adaptable tool to get multiple tasks done with a single machine. Built to function as a trenching, grading or clamshell bucket and for gripping and loading, they used PowerGrip for a diverse range of tasks – placing riprap and rock, rebuilding road embankments, and cleaning up salmon streams.

This inherent flexibility allows JJ Welch Contracting to keep PowerGrip on their machine 85 percent of the time, year-round. "PowerGrip's versatility allows our operators to save time and better utilize our materials on the job site," states Jim.

PowerGrip buckets are available for equipment up to 20 tons in three sizes with bucket width ranges from 24 inches to 48 inches in the trenching profiles and 48 inches or 60 inches in ditching profiles.



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US Patent 6370801 B1, corresponding international patents pending  
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