

CHEM INTERNATIONAL

CI360™ | AUTO & FLEET WASH

AW • 6 STAGES • ONE PASS • ONE PRIMARY TRACK PER SITE

A wash bay does not fail because the chemistry is weak. It fails when two products are fighting for the same job - a second primary detergent nobody retired, a pre-treat arch running on every car, a premium sealant feeding on top of an economy wax.

Auto & Fleet Wash

One product. One job. One pass.



Inside the wash program

One operating sequence from first impact to fleet readiness - organized by the job each product owns, the conditions that justify it, and the controls that prove it is working.

01	Program overview Six stages, five operating variables, and the one-product-per-stage rule.	3	02	Pre-treat & primary wash Read the soil, run pre-treat by exception, and lock one primary track.	5
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S1 Pre-treat Break the bond before the arch	S2 Primary wash One chemistry track per site	S3 Protect One protectant per package tier
S4 Decontaminate Only where the surface demands it	S5 Detail Tires, glass, and interior finish	S6 Fleet readiness Corrosion protection and winter fluids

One pass, six stages - and every product owns exactly one of them

Six stages. One pass. Two escalation paths.

CI360™ is a task-based program, not a product shelf. A wash pass runs in order: pre-treat, primary wash, protect - and where the surface demands it, decontaminate and detail. Each stage has one job and one product lane. The program fails when the lanes blur: two primary detergents fighting the same job, a pre-treat arch firing on every vehicle whether the soil justifies it or not, or specialty chemistry left running as ordinary detergent.

Every wash balances five variables - chemistry, temperature, dwell time, mechanical energy, and water quality. Raising concentration is the one lever operators reach for first and the one that pays back least. CI360 fixes the product lane so the other four can be tuned deliberately, logged, and defended at the end of the month.

SIX STAGES • CLICK A SEGMENT ON THE DIAL OR A STAGE IN THE LIST

S1	Pre-treat Break the bond before the arch	000- 060°
S2	Primary wash One chemistry track per site	060- 120°
S3	Protect One protectant per package tier	120- 180°
S4	Decontaminate Only where the surface demands it	180- 240°
S5	Detail Tires, glass, and interior finish	240- 300°
S6	Fleet readiness Corrosion protection and winter fluids	300- 360°

● SELECTED STAGE ● OTHER STAGES

DASHED OUTER ARC = THE NEXT VEHICLE

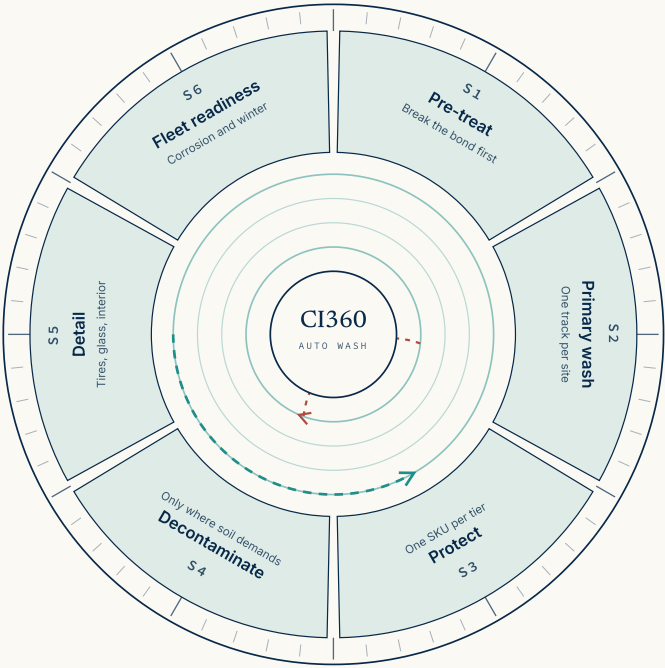
RED ARC = ESCALATE TO DECONTAMINATION

● INDUSTRIAL REMEDIATION ● FACILITY MAINTENANCE

= CATALOGUE SECTION OF A LINKED PRODUCT

THE OPERATING ROUTE

1 Assess Equipment type, soil load, water profile, package tiers	2 Assign One product to each stage - no parallel defaults	3 Meter Set the injector, log the ratio, mark the pickup tube	4 Verify Foam stability, rinse break, exit-lane sheeting, cost per vehicle
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FAILURE MODE 01

Two primary detergents on one site

A standard and a step-up chemistry both live on the shelf because nobody made the call. Training splits, injector settings drift between shifts, and no one can say which product produced this month's result. Pick one primary track per site and retire the other.

FAILURE MODE 02

Pre-treat running as a default step

A pre-treat arch firing on every vehicle is chemistry spent on cars that would have cleared in the main wash anyway. Pre-treat earns its place on bug film, diesel soot, tar, and heavy grease - not on ordinary road film.

FAILURE MODE 03

Strength substituted for dwell

The first reaction to a car coming out dirty is to raise the dose. Nine times out of ten the panel dried before rinse, the arch spacing is wrong for the conveyor speed, or the water is too hard. Chemistry is the most expensive of the five variables and the least likely to be the fault.

FAILURE MODE 04

Protectants stacked across tiers

Premium sealant applied over an economy wax does not produce a premium result - it produces two line items and one water break. Run one protectant per package tier and let the tier structure carry the price difference.

FAILURE MODE 05

Specialty chemistry in the daily rotation

Acid brighteners, iron removers, and tar solvents are corrective tools. Left running as routine wash chemistry they attack finishes, raise handling risk, and hide the real soil problem. Correct the surface, then put the product away.

THE ONE-PRODUCT-PER-STAGE RULE

SIX STAGES, ONE SYSTEM

- Pre-treat chemistry breaks bonds the main wash cannot - and runs only on the vehicles that need it.
- One primary detergent owns the wash, chosen by equipment type rather than by preference.
- One protectant carries each package tier. Show foam is a dwell and appearance feature, not a second wash.
- Decontamination is a separate pass for contamination sitting below the wash threshold.
- Detail chemistry runs at the exit, on clean dry surfaces, where the customer actually sees it.
- Fleet readiness chemistry protects the asset after the wash - corrosion, glass, and winter fluids.

PLANNING MISTAKES THIS PROGRAM AVOIDS

- Stocking a standard and a step-up primary so nobody has to decide which one the site runs.
- Raising the primary dose to solve a dwell, temperature, or water-quality problem.
- Metering premium protectant into every package because the pump is already plumbed.
- Using acid brightener on polished or anodized aluminum because it is the bottle already on the rack.
- Buying by drum price instead of cost per vehicle, and never checking the two against each other.

SAFETY FLOOR

Follow site SOPs, current SDS, product labels, PPE requirements, and applicable regulations. **Never mix acidic and alkaline chemistry, and never combine an acid brightener with a caustic detergent in the same line, tank, or trench.** Label every secondary container and every injector pickup. Keep solvent spotters away from arches and foam cannons. Acid products require full PPE, cool panel temperature, controlled dwell, and a complete post-rinse.

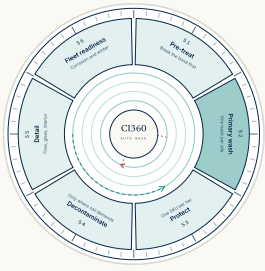
STRENGTH IS NOT A STRATEGY

Do not answer every wash complaint by increasing concentration. Streaking is usually water hardness or an incomplete rinse. A dirty lower third is usually dwell or arch coverage. Foam collapse is usually temperature or dilution error. A stronger dose is not a substitute for running the right stage.

Working from a drum invoice, not a wash count?

The Bench converts a ratio into millilitres per vehicle, litres per month, and cost per car - using your own delivered cost, not a list price.

[See The Bench worksheets](#)



SECTION 02 · STAGE S1-S2 · PRE-TREAT & PRIMARY WASH

Pre-Treat & Primary Wash

Breaking the bond where the soil warrants it, then one primary chemistry track chosen by the equipment on site.

RESULT

One locked primary track and a pre-treat lane that runs by exception

“Pick one primary track per site and lock it. Pre-treat only where the soil will not release in the main wash.”

This is where the site's cost structure gets decided. The primary detergent is the highest-volume product in the building, so the ratio you set here moves the monthly chemistry bill more than every other lane combined. Choose the track by equipment - touchless arches and pressure systems take one chemistry, cloth and mitt systems take another - then meter it, log it, and leave it alone until something measurable changes.

Pre-treat is the lane most often over-run. A presoak arch firing on every vehicle spends chemistry on cars that would have cleared anyway. Bug film in June, diesel soot on a fleet unit, tar after a paving season, salt film through a Prairie winter - those justify the stage. Ordinary commuter road film does not.

THE WASH LOGIC

1 Read the soil Bug, soot, tar, salt, or ordinary road film	2 Pre-treat by exception Only where the main wash will not release it	3 Apply the primary One track · metered · logged · marked at the injector	4 Hold the dwell Panel stays wet from first impact through rinse	5 Escalate deliberately Step up only when the standard setting genuinely cannot clear the load
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THE CHEMISTRY CABINET · colour dot = the catalogue section each product lives in · tap a name to open its product page

PRE-TREAT - BY EXCEPTION, NOT BY DEFAULT

Presoak ahead of the main wash, bug strip in season, and heavy fleet prespray for diesel soil.

CI Formula 69 PreSpray
● High-alkaline presoak

CI Bug Remover
● Bug and protein film

CI TruckWash & Soot Remover
● Diesel soot and grease

PRIMARY WASH - PICK ONE BY EQUIPMENT

Touchless arches and pressure systems take one chemistry; cloth, brush, and mitt systems take another.

CI MagicTouch Touchless Car Wash
● Touchless primary

CI Formula 08/08
● Friction and mitt primary

PRESSURE, MOBILE, AND HIGH-VALUE EXTERIORS

Wand, foam cannon, and yard work - including painted exteriors that will not tolerate an aggressive detergent.

CI JetClean Plus
● Aviation and high-value exteriors

CI ACII Degreaser
● Engine and equipment grease

SHEET AW-02	STAGE S1-S2 · Pre-treat & primary wash	STANDARD One primary track · metered and logged · panel wet to rinse	PRODUCTS 7
PRE-TREAT / WASH			
VEHICLE TRAVEL · ENTRY → EXIT			
TASK / CONDITION · BEST-FIT PRODUCTS	WHY IT BELONGS · OPERATOR NOTE		
1 Presoak ahead of the main wash ● CI Formula 69 PreSpray	Solvent-free high-alkaline concentrate for tunnel and self-serve presoak. Presoak buys the main wash a shorter, easier job. Run it where road film and grease are heavy enough to slow the primary stage - not on every vehicle because the pump is plumbed.		
2 Bug film and protein residue ● CI Bug Remover	Published dose is 20-25 mL/L for wash tanks; 60 mL per full windshield-washer reservoir. Seasonal, not permanent. Bug strip earns its arch from late spring through early autumn and comes off the program the rest of the year.		
3 Diesel soot and heavy fleet soil ● CI TruckWash & Soot Remover	High-alkaline concentrate with emulsifiers and solvents; corrosion inhibitors leave a light protective film after rinse. Lower thirds and engine compartments on fleet equipment. Give it real dwell - soot is a bonded deposit, not a surface film, and it does not respond to a faster pass.		
4 Touchless and pressure primary wash ● CI MagicTouch Touchless Car Wash	Medium-alkaline, solvent-free touchless concentrate. Published dilution band 1:100 to 1:250. Safe on clear-coat paint, chrome, aluminum, plastics, rubber, vinyl, and bay concrete. The band is wide because water profiles differ. Start conservative, verify the rinse break, and only move within the band once dwell and coverage have been ruled out.		
5 Friction, mitt, and brush primary wash ● CI Formula 08/08	High-foam cherry mitt wash. Foam clings and lubricates the surface to prevent scratching on sensitive finishes. Where media touches paint, foam is a lubricant before it is a show feature. Thin foam on a cloth line is a claims problem waiting to happen, not a cosmetic one.		
6 Pressure wash, mobile, and painted-exterior work ● CI JetClean Plus ● CI ACII Degreaser	An ARP1755A-compliant aircraft exterior cleaner for painted panels, aluminum, plastics, and landing gear; a water-soluble degreaser for engines, off-road equipment, concrete, and white-wall tires. Two different jobs. The aviation-grade cleaner is for high-value painted exteriors that will not tolerate an aggressive detergent; the degreaser is for the yard, the shop floor, and the engine bay.		

The equipment picks the track. Preference does not get a vote.

Soil → track → dwell → rinse.

TOUCHLESS /
PRESSURE TRACK
WHEN...

- High-pressure arches, in-bay automatics, or wand and foam-cannon systems.
- No media touches the paint, so chemistry and pressure do all the work.
- Fleet and municipal yards where equipment varies vehicle to vehicle.
- Damage-claim exposure makes brush contact unacceptable.



Track selection
equipment · not
preference

FRICTION / MITT
TRACK WHEN...

- Cloth, brush, mitt, or conveyor media contacts the vehicle.
- Foam lubricity is protecting both the paint and the media.
- Self-serve bays running foam brushes and hand mitts.
- Throughput matters more than avoiding all surface contact.



SIGNS THIS STAGE IS OVER-RUN

Pre-treat fires on every vehicle regardless of soil. The primary dose has been raised twice this year with no change in traffic or water. Both a standard and a step-up primary are on the shelf and in the injector rack. Drum change intervals are shortening while wash counts are flat.

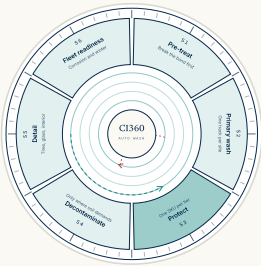
SIGNS THIS STAGE IS UNDER-BUILT

Lower thirds and rocker panels come out dirty while the upper body is clean - coverage or dwell, not dose. Foam collapses before the vehicle reaches the next arch. Winter film survives the pass. Nobody can state the current ratio without opening a cabinet and guessing.

RUN THE SITE, NOT THE SHELF

The equipment picks the track. Preference does not get a vote.

SOIL / TRACK / DWELL / RINSE



SECTION 03 · STAGE S3 · PROTECTION & SHOW

Protection & Show

The drying agent that shortens blow-off, and the show foam that carries dwell and the upsell.

RESULT

One protectant per package tier and a visible difference between tiers

“One protectant per tier. Show foam is a dwell and appearance feature - it is not a second wash.”

Protection is the stage the customer judges the whole wash by. It is also the stage where package architecture either works or quietly stops meaning anything. If the top tier and the entry tier both leave the same water break, the price difference is not defensible and the upsell stops converting within a season.

The drying agent is the highest-leverage product on this page after the primary detergent. A proper water break sheets the vehicle before the blowers touch it, which shortens dryer time and takes real load off the blower motors. That is an energy number an operator can measure, not a claim - log the dryer draw before and after any protectant change and keep the reading.

THE PROTECTION LOGIC

1 Rinse first Protectant onto a rinsed panel, never onto detergent	2 Assign one per tier Entry and premium get different chemistry, not doubled chemistry	3 Meter low These are the most concentrated products in the bay	4 Confirm the break Exit-lane sheeting and beading, every shift	5 Prove the tier If both tiers look the same, the package architecture has failed
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THE CHEMISTRY CABINET

DRYING AND PROTECTION - LOCK ONE PER TIER

Carnauba drying agent that bonds at rinse and moves the vehicle through the dryer faster.



CI Formula 24/07
● Drying agent with wax

SHOW FOAM - SPEC AS A MATCHED SET

Three colours, one product family. Run them together for dwell, appearance, and upsell value.

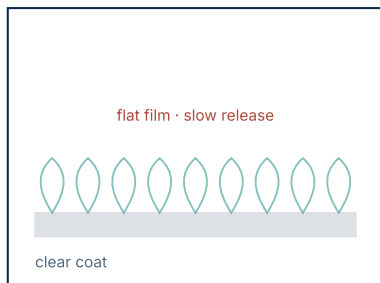


CI TriFoam American
● Show foam · red, blue, yellow

STAGE-TO-PRODUCT MAP · SHEET AW-03

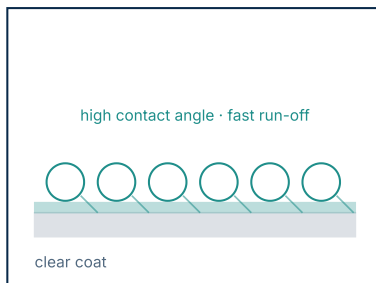
SHEET AW-03	STAGE S3 · Protection & show	STANDARD Clean water break · one protectant per tier · visible tier difference	PRODUCTS 2
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NO PROTECTANT



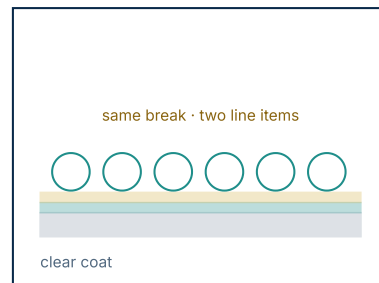
water clings · blower works harder

DRYING AGENT



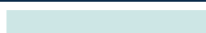
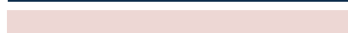
sheets and beads · shorter dry

TWO PROTECTANTS



no added gain · cost doubles

RELATIVE BLOWER DEMAND · MEASURE, DO NOT ASSUME



Bars are illustrative of the mechanism. Log your own dryer draw before and after a protectant change.

TASK / CONDITION · BEST-FIT PRODUCTS

WHY IT BELONGS · OPERATOR NOTE

1

Drying agent and surface protection

● CI Formula 24/07

Concentrated carnauba drying agent that bonds during the rinse stage to create a hydrophobic layer - rapid beading, spot prevention, and gloss. Published dilution up to 1:300.

The vivid foam is deliberate: it makes a low-dose product visible to the customer. Do not raise the dose to make it more visible - raise the arch coverage.

2

Show foam and package upsell

● CI TriFoam American

Concentrated multi-colour foaming detergent in red, blue, and yellow, with published dilution up to 300:1 at a foam arch and 400:1 for manual application.

Spec all three colours as a set. They are one product family running as a dwell and appearance feature, not three separate wash programs to be priced independently.

3

Tier separation

The gap between an entry package and a premium package has to be visible at the exit.

Two protectants stacked on one vehicle produce one water break and two line items. If the tiers look identical, fix the architecture before adding chemistry.

4

Dryer load

Better sheeting means less water on the panel when the blowers engage.

Measure it. Log dryer draw and dwell time for a week before a protectant change and a week after, and keep the two readings side by side in the commissioning file.

5

Rinse water quality

Hard water raises spotting risk regardless of which protectant is running.

Compensate with rinse volume, and justify RO or DI on the final rinse where spotting is chronic. A drying agent cannot correct a water problem upstream of it.

THE PROTECTION DECISION

A package tier that cannot be seen is a discount you are paying for.

What a correctly run protect stage buys you.

Three things, all measurable. A shorter dryer cycle, which is throughput and blower energy. A defensible package structure, which is margin. And a finish the customer can see from the exit lane, which is what brings the vehicle back. None of the three requires a second protectant - all three require the one you have to be metered correctly and confirmed every shift.

THE TIER
STRUCTURE IS
WORKING WHEN...

- Water break at the exit is visibly different between entry and premium.
- Dryer time is measurably shorter on the protected tier.
- Each tier feeds exactly one protectant SKU.
- Upsell conversion holds through a full season without discounting.



Tier separation
visible · vs · nominal

THE TIER
STRUCTURE HAS
FAILED WHEN...

- Both tiers leave the same sheeting pattern on the exit lane.
- Two protectants feed the same vehicle on the top package.
- Nobody on shift can describe what the premium package actually adds.
- The upsell only converts when it is discounted.

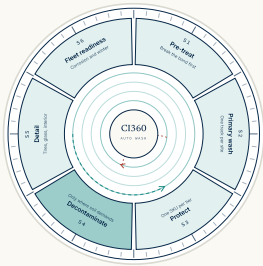
DO NOT STACK PROTECTANTS

Layering a premium sealant over an economy drying agent does not compound the effect. The second product lands on a surface the first one has already occupied, the water break does not improve, and the site pays twice for one result. Run one protectant per tier and let the tier boundary carry the difference.

MAKE THE TIER VISIBLE

A package tier that cannot be seen is a discount you are paying for.

ONE PROTECTANT / ONE WATER BREAK / ONE PROVABLE DIFFERENCE



SECTION 04 · STAGE S4 · DECONTAMINATION

Decontamination & Problem Soils

Iron fallout, tar, and heavy grease sit below the wash threshold.
Raising the primary dose does not reach them.

RESULT

Contamination corrected in its own pass, then straight back on program

“Decontamination is a separate pass, not a stronger wash. Correct the surface, rinse it, and return to the standard program.”

Some contamination is not road film. Iron fallout from brake dust and rail transport embeds into the clear coat and can be felt with a hand through a plastic bag. Tar bonds and needs a solvent. Diesel soot and engine grease are chemically different problems from what a wash detergent is built for. All three sit below the threshold the primary wash operates at, which is why running the detergent harder produces nothing except a larger invoice.

This stage is also where the handling risk concentrates. Acidic chemistry belongs on specific metals under specific conditions, and never on polished or anodized aluminum. Solvent spotters are for localized application by hand - they do not go through an arch or a foam cannon under any circumstance.

THE DECONTAMINATION LOGIC

1 Confirm the contaminant Iron feels gritty · tar is a bonded spot · soot is a film	2 Wash first Decontaminate a washed surface, not a dirty one	3 Test the substrate Metal finish, trim, and refinish age all change the answer	4 Controlled dwell Keep wet · cool panels · never let it dry	5 Rinse fully, then re-wash The main wash always follows a decontamination pass
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THE CHEMISTRY CABINET

IRON FALLOUT AND SURFACE RUST

Embedded iron particles on paintwork - transport film, brake dust, and new-vehicle prep.



CI AutoBrite

- Iron fallout and rust film

TAR AND ASPHALT - SPOT APPLICATION ONLY

Localized citrus solvent. Never through an arch, a foam cannon, or a recirculating line.



CI Citrus Tar Remover

- Tar and asphalt · spot only

GREASE, SOOT, AND ENGINE BAYS

Heavy hydrocarbon soil on equipment, undercarriages, and shop surfaces.



CI ACII Degreaser

- Engine and equipment grease



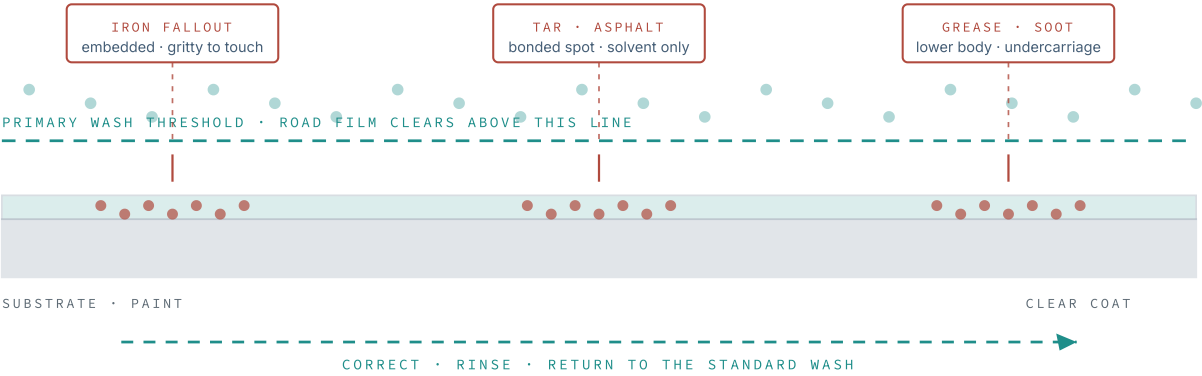
CI TruckWash & Soot Remover

- Diesel soot and grease

STAGE-TO-PRODUCT MAP · SHEET AW-04

SHEET AW-04	STAGE S4 · Decontamination	STANDARD Contaminant cleared · substrate intact · full rinse · back on program	PRODUCTS 4
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Decontamination is a separate pass, not a stronger wash. Raising primary detergent concentration does not reach anything below the threshold line.



TASK / CONDITION · BEST-FIT PRODUCTS

WHY IT BELONGS · OPERATOR NOTE

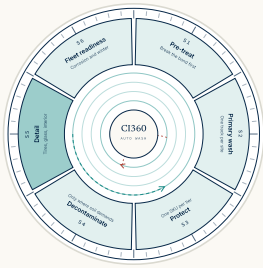
1	Iron dust and surface rust on paintwork ● CI AutoBrite	Oxalic acid and detergent blend. Published method is one part product to two parts warm water, applied by sponge to a wetted surface after the initial pressure wash, kept wet until the contamination clears, then rinsed thoroughly. The published record notes rinse precautions for anodized aluminum and stainless. Confirm those against the current TDS before running it near trim, and never let it dry on a panel.
2	Tar, asphalt, and bonded oily spots ● CI Citrus Tar Remover	Viscous natural citrus solvent, free of acids, alkalis, chlorinated solvents, and petroleum distillates. Undiluted for heavy tar; diluted for lighter degreasing. Spot chemistry, applied by hand, always followed by the main wash. It never goes through an arch or a foam cannon, and it stays away from fresh refinish work.
3	Diesel soot and heavy grease ● CI TruckWash & Soot Remover ● CI ACII Degreaser	A high-alkaline soot remover with corrosion-inhibiting agents that leave a light protective film after rinse; a water-soluble degreaser that rinses clean without films or residue. Lower thirds, engine compartments, undercarriages, and shop floors. Both are corrective - neither belongs in the daily wash rotation on a finished vehicle.
4	Substrate testing before the pass	Metal finish, trim material, and refinish age all change whether a chemistry is safe on that vehicle. Test in an inconspicuous area first, every time. Two minutes of testing is cheaper than one panel.
5	Return to the standard program	A decontamination pass always ends with a full rinse and a normal wash. Correct the surface, then put the product away. Contamination that keeps returning is a source problem upstream - storage, transport, brake hardware, or the road - not a wash problem.

ACID HANDLING · NON-NEGOTIABLE

Acidic decontamination chemistry requires full PPE, cool panel temperature, controlled dwell, and a complete post-rinse. It is never applied to a hot panel, never left to dry, and never used where an etched or dulled finish would be unacceptable. Confirm substrate compatibility - particularly on polished and anodized aluminum - against the current SDS and TDS before the first pass.

KEEP THE LANES SEPARATE

Every product in this section solves one specific problem. Once the contamination is cleared, the surface goes back on the standard wash program. Specialty chemistry left in daily rotation attacks finishes, raises handling risk, and hides whatever is actually generating the contamination.



SECTION 05 • STAGE S5-S6 • DETAIL & FLEET READINESS

Finish, Detail & Fleet Readiness

The exit lane the customer actually sees, and the corrosion and winter chemistry that keeps a fleet in service.

RESULT

A finished vehicle at the exit and a fleet that survives the salt season

“Detail chemistry goes on clean, dry surfaces. Fleet chemistry protects the asset after the wash is finished.”

Everything upstream of this stage is invisible to the customer. The exit lane is not. Dressed tires, clean glass, and a conditioned interior are the whole visible product on a retail wash, and on a fleet contract they are the difference between a unit that looks maintained and one that looks neglected in front of a client.

Fleet readiness sits one step further out. Salt-belt operations, municipal fleets, agricultural units, and frame-heavy equipment all lose more value to corrosion than to appearance. Undercarriage protection, glass that can actually be reached on a high-profile unit, and winter fluids matched to real Prairie temperatures are asset-protection chemistry, not detailing.

THE FINISH LOGIC

1 Dry first Dressings and conditioners need a dry surface to bond	2 Tires and trim Rubber and dark vinyl · buff for gloss or leave for satin	3 Glass and mirrors Streak-free · reachable without a ladder on high units	4 Interior touch Leather and trim, cleaned and conditioned in one step	5 Fleet protection Corrosion and winter fluids - seasonal, scheduled, logged
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THE CHEMISTRY CABINET

EXTERIOR FINISH

Tires, whitewalls, mud flaps, rubber bumpers, mouldings, and air dams.

GLASS AND INTERIOR

High-reach glass on semis, buses, and arena dasher boards; leather cleaned and conditioned in one pass.

FLEET READINESS - ASSET PROTECTION

Corrosion conversion on exposed metal, winter washer and coolant fluids, and lubrication on the moving hardware.



CI TireShine
● Tire and trim dressing



CI ClearReach
● High-reach glass



CI Revitaluxe
● Leather clean and condition



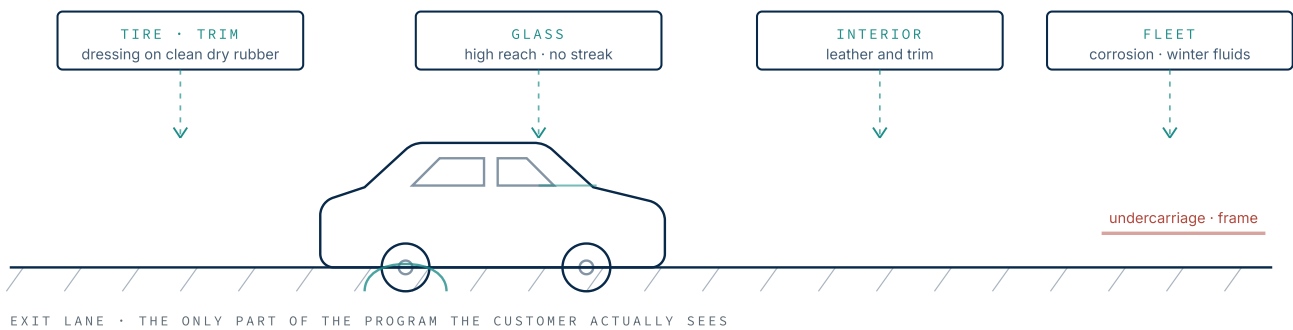
Rust Converting Spray Aerosol
● Rust conversion coating



CI Windshield Washer AntiFreeze
● Freeze protection to -64 °C



CI Super White Lube
● Lithium complex grease spray



TASK / CONDITION · BEST-FIT PRODUCTS

WHY IT BELONGS · OPERATOR NOTE

①

Tire and trim dressing

● CI TireShine

Water-based silicone emulsion that restores a deep black finish and forms a protective coating on tires, whitewalls, mud flaps, rubber bumpers, mouldings, and air dams. Resists wash-off and guards against fading, cracking, dry rot, and UV damage.

Spray onto clean dry surfaces, allow brief penetration, then buff for high gloss or leave for satin. Dressing applied to a wet tire slings onto the panel and undoes the finish stage.

②

High-reach glass

● CI ClearReach

Ammonia-free aerosol glass cleaner with an extended spray pattern reaching up to 14 feet - built for semi windshields, bus mirrors, and arena dasher glass. Safe on glass, plexiglass, and tinted surfaces, including in cold conditions.

The reach is the point. It removes the ladder from a routine task on high-profile units, which is a safety saving before it is a labour saving.

③

Interior leather and trim

● CI Revitaluxe

Silicone-free, residue-free foam that cleans and conditions in one step, with UV protection. Lifts embedded dirt, body oils, ink, and residue without over-wetting.

One product instead of a clean-then-condition sequence. On a fleet contract this is where perceived vehicle age is decided.

④

Corrosion protection on exposed metal

● Rust Converting Spray Aerosol

Aerosol rust converter that chemically transforms active rust into a stable black polymer coating - no grinding, sandblasting, or priming. Wire-brush loose debris, dry the surface, spray, and add a second coat for durability.

Frames, undercarriages, and exposed hardware on salt-belt, municipal, and agricultural units. Schedule it in the autumn, before the salt season rather than after it.

⑤

Winter fluids

● CI Windshield Washer AntiFreeze

Published freeze protection scales with dilution: 50/50 to -37 °C, 60/40 to -52 °C, 70/30 to -64 °C. Doubles as a summer coolant with corrosion inhibitors that protect radiators, hoses, and gaskets.

Set the changeover date, not the changeover temperature. A fleet that switches after the first hard freeze has already lost a week of units to frozen reservoirs.

⑥

Moving hardware

● CI Super White Lube

Lithium complex grease that sprays as a fluid to reach confined components, then sets into a water-resistant film effective from 0 °F to 350 °F. Resists sling-off and washout on chains, cables, gears, rollers, springs, hinges, conveyors, and winches.

Wash bays wash out grease. Anything that moves and got wet needs re-lubrication on a schedule - including the conveyor and door hardware in the bay itself.

EXIT LANE / ASSET PROTECTION

Finish seen. Fleet protected.

THE EXIT LANE IS THE PRODUCT

A customer cannot see dwell time, injector settings, or rinse TDS. They can see a dressed tire, clean glass, and water sheeting off the hood as they pull out. The exit lane is where a technically correct wash becomes a visibly good one - and it is the cheapest stage in the program to get right.

FLEET READINESS IS SCHEDULED, NOT REACTIVE

Undercarriage protection applied in December is a repair. Applied in October it is maintenance. Put the corrosion pass and the winter fluid changeover on fixed calendar dates in the work-order system, the same way the wash program itself is scheduled.

The Bench - mix it, count it, cost it

The same four numbers every wash argument comes down to: ratio, litres, vehicles, and dollars.

Most sites can quote a drum price and nobody can quote a cost per vehicle. Those are different numbers and only one of them is manageable. The Bench converts a dilution ratio into millilitres per car, litres per month, containers per quarter, and - using your own delivered cost, not a list price - cents per vehicle. It also does the calculation most operators avoid: what a step up from the standard ratio to the performance ratio actually costs over a year.

RATIO CONVENTION USED HERE

1:X means one part concentrate to X parts water. A 1:200 mix in a 200 L tank is 995 mL of concentrate and 199 L of water. Published bands shown in the product list come from the Chem International catalogue record; where the record does not publish a ratio the field is left open for you to enter the figure from the current label or TDS. Nothing on this page is a substitute for the product label.

TOOL	FUNCTION	COST BASIS
AW-B1	Dilution, consumption, and cost-in-use bench for the CI360 Auto Wash program	Your delivered cost • entered by you • nothing pre-filled

WORKSHEET 01 / MIX

PRODUCT

CI MagicTouch Touchless Car Wash

Catalogue: 1:100 - 1:250 published

RATIO • 1 TO

200

BATCH VOLUME • L

200

CONTAINER ON SITE

205 L drum

Used to work out how many batches one container yields.

CONCENTRATE
REQUIRED

995.0 mL

at 1:200 into a 200 L batch

WATER REQUIRED

199.0 L

Fill water first, add concentrate second, and never the other way round.

DOSE RATE

4.98 mL/L

One 205 L container makes 41,205 L of working solution - about 206 batches this size.

PROCEDURE

- 1 Charge the tank with 199.0 L of water first. Concentrate into water, never water into concentrate.
- 2 Add 995.0 mL of concentrate to make 200 L of working solution at 1:200.
- 3 Set the injector to deliver 4.98 mL per litre and mark the pickup tube with the product and the setting.
- 4 Verify by draw-down: run a measured volume and confirm the concentrate drawn matches the figure above before you accept the setting.
- 5 Log the ratio, the date, and who set it. An unrecorded injector setting drifts within a season.

VEHICLES PER DAY

120

OPERATING DAYS / WEEK

7

SOLUTION PER VEHICLE · L

12

RATIO · 1 TO

200

CONTAINER SIZE

205 L drum

Solution per vehicle is applied volume at the arch, not tank capacity. If you do not know it, time one pass and measure the flow.

CONCENTRATE PER VEHICLE 59.7 mL 12 L applied at 1:200	CONCENTRATE PER MONTH 217.3 L 3,640 vehicles per month at 120/day × 7 days	CONTAINERS PER MONTH 1.06 × 205 L Annual: 2,608 L · 12.7 containers
--	---	--

HOW TO CHECK THIS AGAINST REALITY

1

Expected consumption is 59.7 mL of concentrate per vehicle at this ratio and applied volume.

2

That is 217.3 L per month - roughly 1.06 × 205 L containers.

3

Now check it: note the date you open a container and the date it runs dry, and compare the real interval against 29 days.

4

If the container empties faster than the model, the injector is over-feeding, there is carry-over between arches, or the applied volume is higher than assumed.

5

If it lasts longer, confirm the vehicles are actually getting the dose before you claim the saving - an under-feeding injector looks identical on paper.

SITE NOTES / ACTUAL DRAW-DOWN

CONTAINER SIZE • L

205

YOUR DELIVERED COST

• \$

0

SOLUTION PER VEHICLE
• L

12

VEHICLES PER MONTH

3600

STANDARD RATIO • 1
TO

250

STEPPED-UP RATIO • 1
TO

150

Cost is whatever you enter. Chem International does not publish pricing on this page, and nothing here is pre-filled from a price list.

COST PER VEHICLE •
STANDARD

—

Enter your delivered cost per container to calculate.

MONTHLY • STANDARD
RATIO

—

this lane only

COST PER 1,000
VEHICLES

—

The number to quote in a package-pricing conversation.

STEPPED-UP RATIO • PER
VEHICLE

—

at the performance setting

ANNUAL COST OF THE STEP UP

—

difference between the two settings over twelve months

WHAT TO DO WITH THESE NUMBERS

- 1 Enter the container size and the price you actually pay delivered - including freight, deposit, and any surcharge.
- 2 Nothing on this page is pre-filled from a Chem International price list. The figure is yours.

SITE NOTES / DELIVERED-COST CHECK

Operating data below is taken from the Chem International product catalogue. Where the catalogue record does not publish a figure it is marked rather than estimated - confirm those against the current label, TDS, and SDS before commissioning.

CI MagicTouch Touchless Car Wash

TOUCHLESS / IBA PRIMARY

DILUTION

1:100 - 1:250

CHEMISTRY

Solvent-free, medium-alkaline concentrate

SURFACES

Clear-coat paint, chrome, aluminum, plastics, rubber, vinyl, bay concrete

ALSO RUNS

Pressure washers and pre-soak systems

CATALOGUE

● CI MagicTouch Touchless Car Wash

CI Formula 24/07

DRYING AGENT · PROTECT TIER

DILUTION

Up to 1:300

MECHANISM

Carnauba bonds at rinse · hydrophobic layer · rapid beading

APPLICATION

Foam arches, sprayers, final rinse systems

SURFACES

All paint, plastic, and chrome

CATALOGUE

● CI Formula 24/07

CI TriFoam American

SHOW FOAM · UPSELL SET

DILUTION

Up to 300:1 foam arch · 400:1 manual

COLOURS

Red, blue, yellow · spec as a matched set

CATALOGUE

Confirm current catalogue availability with your Chem International representative

CATALOGUE

● CI TriFoam American

CI Bug Remover

BUG STRIP · PRE-TREAT

WASH TANK

20 - 25 mL/L

WASHER RESERVOIR

60 mL per full tank

SURFACES

Windshields, chrome, paint, glass, rubber, plastic

CATALOGUE

● CI Bug Remover

CI AutoBrite

IRON AND RUST DECONTAMINATION

DILUTION

1 part product : 2 parts warm water

CHEMISTRY

Oxalic acid and detergent blend

METHOD

Sponge onto a wetted surface after the initial pressure wash · keep wet · rinse fully

CAUTION

Rinse precautions apply to anodized aluminum and stainless - confirm on the TDS

CATALOGUE

● CI AutoBrite

CI Windshield Washer AntiFreeze

WINTER FLUIDS

50 / 50

Protects to -37 °C

60 / 40

Protects to -52 °C

70 / 30

Protects to -64 °C

CATALOGUE

● CI Windshield Washer AntiFreeze

CI Citrus Tar Remover

TAR AND ASPHALT • SPOT ONLY

HEAVY TAR

Apply undiluted

LIGHT DEGREASING

Dilute - ratio not published

CHEMISTRY

Viscous citrus solvent • no acids, alkalis, chlorinated solvents, or petroleum distillates

RULE

Spot application only - never through an arch or foam cannon

CATALOGUE

● CI Citrus Tar Remover

CI Formula 69 PreSpray

PRESOAK AHEAD OF THE MAIN WASH

DILUTION

Not published in the catalogue record - confirm against current TDS

CHEMISTRY

Solvent-free high-alkaline concentrate

ROLE

Tunnel and self-serve presoak stage

CATALOGUE

● CI Formula 69 PreSpray

CI Formula 08/08

FRICTION, MITT, AND BRUSH PRIMARY

DILUTION

Not published in the catalogue record - confirm against current TDS

FOAM PROFILE

High foam with surface lubricity

SURFACES

Paint, rubber, plastic, chrome

CATALOGUE

● CI Formula 08/08

CI JetClean Plus

PRESSURE-WASH EXTERIOR CLEANING

DILUTION

Not published in the catalogue record - confirm against current TDS

STANDARD

ARP1755A-compliant aircraft exterior cleaner

APPLICATION

Pressure washer, hot or cold water

CATALOGUE

● CI JetClean Plus

CI TruckWash & Soot Remover

HEAVY FLEET PRESPRAY

DILUTION

Not published in the catalogue record - confirm against current TDS

CHEMISTRY

High-alkaline with emulsifiers and solvents • corrosion inhibitors leave a light protective film

TARGETS

Diesel exhaust carbon, grease, oil, road film

CATALOGUE

● CI TruckWash & Soot Remover

CI ACII Degreaser

ENGINE AND EQUIPMENT DEGREASING

DILUTION

Adjustable - no published table in the catalogue record

APPLICATION

Pressure washer, steam cleaner, or manual brushing

TARGETS

Engines, off-road equipment, concrete, white-wall tires

CATALOGUE

● CI ACII Degreaser

THE BENCH IS A PLANNING TOOL

Results are arithmetic on the numbers you enter. They do not account for carry-over, reclaim dilution, injector drift, temperature effects on viscosity, or the difference between applied volume and tank draw. Use them to build a starting position and a budget - then confirm against actual container-change intervals over a full month and correct the model to match what the site really consumes.

One system, three deployments - what changes is the equipment, not the logic

The stage architecture stays fixed. The primary track and the escalation calendar move with the site.

A touchless in-bay automatic, a friction tunnel, and a mobile fleet operation run the same six stages in the same order. What differs is which primary chemistry owns stage two, how often the pre-treat lane fires, and where in the calendar the winter escalation sits. Setting those three things correctly for the site is the entire deployment decision.

Touchless / In-Bay Automatic

No media contact - chemistry and pressure do the work

PRIMARY

CI MagicTouch within the published 1:100 to 1:250 band, tuned to the site water profile.

PRE-TREAT

CI Formula 69 PreSpray on heavy soil; CI Bug Remover on a seasonal arch.

PROTECT

CI Formula 24/07 at the rinse stage - one tier, metered low.

WINTER

Extend dwell before raising dose. Heated solution at the arch where it is safe and justified.

Friction Tunnel & Self-Serve

Cloth, brush, mitter, and foam-brush bays

PRIMARY

CI Formula 08/08 - foam lubricity protects the paint and the media together.

SHOW

CI TriFoam American as a matched three-colour set for dwell and upsell.

PROTECT

CI Formula 24/07 on the tier that carries it. Do not layer a second protectant.

MEDIA

Foam quality is a maintenance item. Thin foam on a cloth line is a claims risk, not a cosmetic one.

Mobile Fleet & Yard

Wand, foam cannon, and downstream injection

PRESPRAY

CI TruckWash & Soot Remover on lower thirds and engine compartments with real dwell.

PRIMARY

CI MagicTouch through pressure equipment; CI JetClean Plus on high-value painted exteriors.

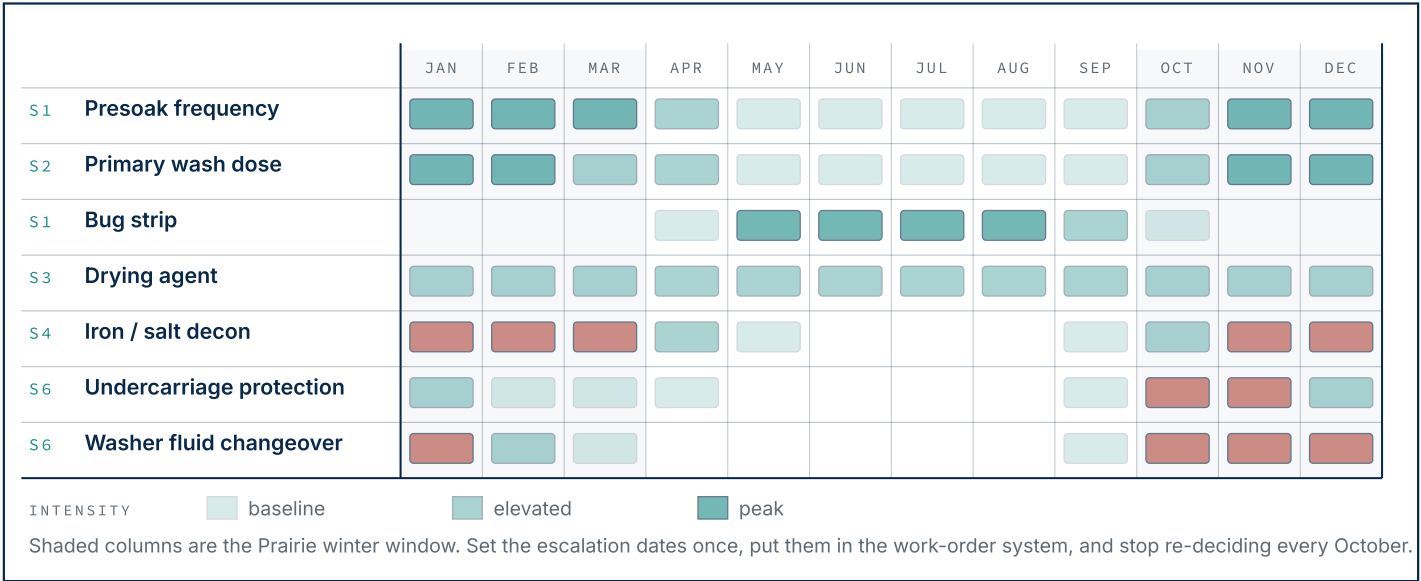
HEAVY SOIL

CI ACII Degreaser for engines, equipment, and shop surfaces - corrective, not routine.

AUTUMN

Corrosion pass and winter fluid changeover on fixed dates, before the salt season.

PLANNED OPERATING YEAR • TWELVE-MONTH VIEW



CONDITION ON THE VEHICLE What you are actually looking at	STAGE Where it belongs in the pass	FIRST MOVE Do this before anything else	PRODUCTS	ESCALATE ONLY IF...
S1 Bug film on the front fascia	Pre-treat	Seasonal bug strip at 20-25 mL/L. Dwell before the main wash.	● CI Bug Remover	Residue survives the pass - extend dwell before raising dose.
S1 Diesel soot and lower-body grease	Pre-treat	Prespray lower thirds and give it real dwell.	● CI TruckWash & Soot Remover	Soot persists - add heat before adding concentration.
S1 Heavy road film ahead of the wash	Pre-treat	Presoak only on the vehicles that warrant it.	● CI Formula 69 PreSpray	The main wash is still struggling - check arch coverage first.
S2 Standard touchless or pressure wash	Primary	Run the locked track inside its published band.	● CI MagicTouch Touchless Car Wash	Standard setting cannot clear the load after dwell and coverage are ruled out.
S2 Cloth, brush, or mitt system	Primary	Foam for lubricity first, appearance second.	● CI Formula 08/08	Foam collapses early - check water temperature and dilution.
S2 High-value painted exterior or aircraft	Primary	Use the aviation-grade exterior cleaner lane.	● CI JetClean Plus	Soil remains after a full pass - escalate to a prespray, not a stronger primary.
S3 Slow dryer and water clinging to panels	Protect	Confirm the drying agent is feeding, then check the arch.	● CI Formula 24/07	Break does not improve - test rinse water hardness.
S3 Package tiers look identical at the exit	Protect	One protectant per tier and confirm the difference is visible.	● CI Formula 24/07 ● CI TriFoam American	Tiers still read the same - the architecture is the problem, not the chemistry.
S4 Gritty paint · orange specks · transport film	Decontaminate	Wash first, then decontaminate at 1:2 on a wetted surface.	● CI AutoBrite	Contamination returns quickly - the source is upstream of the wash.

CONDITION ON THE VEHICLE What you are actually looking at	STAGE Where it belongs in the pass	FIRST MOVE Do this before anything else	PRODUCTS	ESCALATE ONLY IF...
S4 Tar and asphalt spots	Decontaminate	Hand-applied spot chemistry, then the main wash.	● CI Citrus Tar Remover	Spot persists - repeat rather than extending dwell on a drying panel.
S4 Engine bay, undercarriage, or shop floor grease	Decontaminate	Degrease as a separate corrective pass.	● CI ACII Degreaser ● CI TruckWash & Soot Remover	Grease recurs - look for a leak, not a chemistry gap.
S5 Dull tires and grey trim at the exit	Detail	Dress clean dry rubber, then buff or leave for satin.	● CI TireShine	Dressing slings onto panels - the tire was still wet.
S5 Streaked glass on high-profile units	Detail	Extended-reach glass cleaner from the ground.	● CI ClearReach	Streaking persists - check for silicone transfer from a dressing.
S5 Worn or soiled interior leather	Detail	Clean and condition in one step without over-wetting.	● CI Revitaluxe	Finish stays dull - the leather may be beyond conditioning.
S6 Surface rust on frames and exposed metal	Fleet readiness	Wire-brush, dry, convert, and add a second coat.	● Rust Converting Spray Aerosol	Rust returns - the coating was applied over loose scale.
S6 Winter fluid changeover	Fleet readiness	Match the dilution to the coldest expected temperature, on a fixed date.	● CI Windshield Washer AntiFreeze	Reservoirs freeze - move to a stronger dilution, not a later date.
S6 Squeal, drag, or seizure on washed hardware	Fleet readiness	Re-lubricate anything that moves and got wet.	● CI Super White Lube	Re-application is needed weekly - check for washout exposure.
RULE OF THUMB	If the answer to a wash problem is “turn it up,” check dwell, coverage, temperature, and water quality first. Concentration is the most expensive of the five variables and the least likely to be the actual fault.			

☐ Primary-track lane - the locked chemistry decision
 ☐ Escalation column - conditions that change the plan

Set it once. Run it every shift.

Commissioning turns the stage architecture into work that survives a staff change.

A wash program that lives in one operator's head resets every time that person moves on. Lock the primary track, meter and log the ratios, mark the injector pickups, set the shift checks, and put the numbers somewhere visible. The goal is that a new hire on their second shift can state what the site runs and why.

COMMISSIONING CHECKLIST

1

Select and lock the primary track

Choose the primary chemistry by equipment type - touchless and pressure, friction and mitt, or aviation-grade exterior. Remove the alternative from the shelf and from the injector rack.

2

Meter and log every ratio

Set each injector, record the ratio, and mark the pickup tube with the product and the setting. Use the Bench to convert the ratio into an expected container-change interval, then check it against reality after a month.

3

Program dwell to the conveyor

The panel has to stay wet from first chemical impact through rinse. Conveyor speed and arch spacing set the dwell; chemistry cannot compensate for a pass that dries out.

4

Set the rinse diagnostic

Measure final-rinse TDS where spotting or drying is at issue, and inspect exit-lane sheeting and beading every shift. Log the reading rather than remembering it.

5

Train on the problem soils

Every operator should be able to name the product for bug film, soot, tar, iron fallout, and undercarriage protection - and state which of those are corrective rather than routine.

6

Document and post the settings

Ratios, injector positions, shift checks, and seasonal changeover dates go on a wall chart in the equipment room. A documented program survives turnover; an undocumented one does not.

KPI DASHBOARD • WHAT TO MEASURE

FP

First-pass clean rate

Vehicles leaving without manual rework or a re-entry. Track daily, review weekly. A falling rate is a dwell or coverage signal long before it is a chemistry signal.

CV

Chemistry cost per vehicle

Track by package tier, not as a site average. This is the number the Bench produces and the number a drum price cannot tell you.

TD

Final-rinse TDS

Handheld meter, logged per shift whenever spotting or drying performance slips. Water quality explains more exit-lane complaints than chemistry does.

DE

Dryer energy per vehicle

The measurable payback on the protect stage. Log blower draw and dwell before and after any protectant change and keep both readings.

TS

Tier separation

Exit photographs and water-break observation confirming that the premium package is visibly different. If it is not, the upsell is being discounted by default.

EH

Equipment hygiene

Nozzle scale, carry-over between arches, drip patterns, reclaim condition, and arch cleanliness. Most "chemistry problems" are found here.

WHAT THE SITE REPORTS	FIRST MOVE	PRODUCTS	WHY
WASH QUALITY			
<i>“Cars are coming out dirty, so we turned the dose up.”</i>	Turn it back down and check dwell and coverage.	● CI MagicTouch Touchless Car Wash	Concentration is the most expensive of the five wash variables and the least likely to be at fault. Verify the panel stays wet through rinse before touching the injector.
<i>“The lower thirds are still dirty but the roof is clean.”</i>	Check arch coverage and nozzle condition.	● CI Formula 69 PreSpray ● CI TruckWash & Soot Remover	A clean upper body and a dirty rocker panel is a coverage pattern, not a chemistry deficit. If the soil is soot or grease, it belongs in the pre-treat lane.
<i>“Foam collapses before the next arch.”</i>	Check water temperature and verify the dilution.	● CI Formula 08/08	Foam stability is temperature and dilution before it is product. On a friction line thin foam is a paint-contact risk, so treat it as urgent.
APPEARANCE AND SPOTTING			
<i>“Vehicles are spotting after the dryer.”</i>	Measure final-rinse TDS before changing any product.	● CI Formula 24/07	Hard water spots regardless of which drying agent is running. Compensate with rinse volume, and justify RO or DI on the final rinse where the problem is chronic.
<i>“The premium package does not look different.”</i>	Confirm one protectant per tier and check the arch is feeding.	● CI Formula 24/07	If both tiers leave the same water break, the package architecture has failed. Adding a second protectant to the top tier does not fix it.
<i>“Glass on the trucks streaks every time.”</i>	Use an extended-reach ammonia-free cleaner and check for silicone transfer.	● CI ClearReach	Streaking on high units is usually reach and technique, or dressing overspray from the tire stage.
CONTAMINATION			
<i>“The paint feels gritty even after a good wash.”</i>	Wash, then decontaminate iron at 1:2 on a wetted surface.	● CI AutoBrite	Embedded iron sits below the wash threshold. No increase in detergent concentration reaches it - it needs its own pass.

WHAT THE SITE REPORTS	FIRST MOVE	PRODUCTS	WHY
<i>“Tar spots survive the tunnel.”</i>	Hand-spot with citrus solvent, then run the main wash.	● CI Citrus Tar Remover	Tar is bonded and needs a solvent. It is spot chemistry - it never goes through an arch or a foam cannon.
<i>“The engine bays on our fleet units are black.”</i>	Degrease as a separate corrective pass.	● CI ACII Degreaser ● CI TruckWash & Soot Remover	Engine grease and diesel soot are different soils from road film. Correct them, rinse, then return the unit to the standard program.
FLEET AND WINTER			
<i>“We are losing frames to corrosion in the salt belt.”</i>	Schedule the corrosion pass in autumn, not in December.	● Rust Converting Spray Aerosol	Applied before the salt season it is maintenance. Applied after it is a repair, and the repair costs more than the chemistry ever did.
<i>“Washer reservoirs froze on half the fleet.”</i>	Match the dilution to the coldest expected temperature and set a fixed changeover date.	● CI Windshield Washer AntiFreeze	Published protection scales with dilution - 50/50 to -37 °C, 60/40 to -52 °C, 70/30 to -64 °C. Pick the ratio for the worst week, not the average one.
<i>“Hinges and conveyor hardware seize after washing.”</i>	Re-lubricate on a schedule, including the bay's own hardware.	● CI Super White Lube	A wash bay washes grease out. Anything moving that gets wet needs a planned re-lubrication interval.

WARNING SIGNS AND EVIDENCE OF CONTROL

Two primary detergents on the shelf Parallel primaries mean nobody decided. Training splits, settings drift, and results cannot be compared between shifts.	Nobody can state the current ratio If the ratio is not written down and posted, it is not a setting - it is a habit, and habits drift every time staff turn over.	Chemistry cost is only known per drum A drum price is not manageable. Cost per vehicle is, and it is the only figure that survives a conversation about package pricing.
Cost per vehicle is tracked by tier Knowing the number by package tier is what makes an upsell defensible and a price increase explainable.	Container-change intervals match the model When actual consumption matches the calculated figure, the injectors are holding and the program is under control.	Seasonal changeovers sit on fixed dates Winter escalation, bug strip, and the corrosion pass all belong on the calendar, decided once, rather than re-argued every year.

CI360™ Auto & Fleet Wash is a task-based program guide, not a substitute for site-specific procedures. Confirm dilution ratios, dwell times, application methods, and substrate compatibility against current product labels, technical data sheets, and SDS before use. Follow site SOPs, training, PPE requirements, and applicable regulations. Never mix acidic and alkaline chemistry. Product names follow the Chem International catalogue; linked names open the product page on chemintonline.com. Bench calculations are arithmetic on operator-entered figures and do not constitute a quotation.



CI360™ • AUTO & FLEET WASH

Need a site-specific load sheet?

CI360 can be translated into a wall-chart commissioning packet with pump settings, dilution stickers, injector labels, seasonal changeover dates, and shift checks matched to the exact equipment on your site.

[Request a wash program](#)

[Call 1-800-665-7287](#)

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