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SISTAG

Instruction manual

3.30.10



WEY® Water Control Valves

WEY®
Trademark of SISTAG

WEY® WATER CONTROL VALVES: INSTRUCTION MANUAL

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1. GENERAL

Prior to any work or start-up and in order to ensure a proper functioning of our products, the instruction manual for installation and operation must be observed.

Alterations on the products need our written approval. For consequential damages due to neglect of this direction, we have to reject any liability.

2. TRANSPORTATION, STORAGE

2.1 Transportation

The transportation of sluice gates shall take place in a careful way. Lifting devices shall not be hooked onto stems nor other actuating components. Sluice gates shall be placed on even surface only, never tilted onto an edge, to prevent distortion of the frame. The equipment shall be protected against exterior damage and atmospheric exposure.

Large equipment will be supplied with additional transportation supports. These supports shall not be removed before final mounting.

2.2 Storage

Until final installation the equipment shall be stored in a dry, vented area. All function relevant parts shall be suitably covered against humidity, dust or other contamination.

For longer storage periods or in case of unfavourable storage conditions which might affect later functioning, all blank surfaces, e.g. stem, piston rod shall be suitably protected by longterm preservatives against corrosion.

Factory applied preservatives shall be checked for possible transport damages and appropriately repaired, if necessary.

For mounted accessories such as electric actuators, limit switches, solenoids, etc., the respective storage instructions of the manufacturer shall be observed with priority.

3. INSTALLATION

3.1 Preparation before installation

Onsite construction work details, recesses, walls, etc. shall be checked for accuracy, flatness, finish, etc. before starting with mounting the equipment.

Dimensions of any recesses have to comply with manufacturer's drawings and shall be checked acc. Fig. 1 and Fig. 2.

The walls shall be checked with plumb and level for its perpendicular (fixation of frame, stem guides and actuating components) as well as its horizontal and vertical flatness.

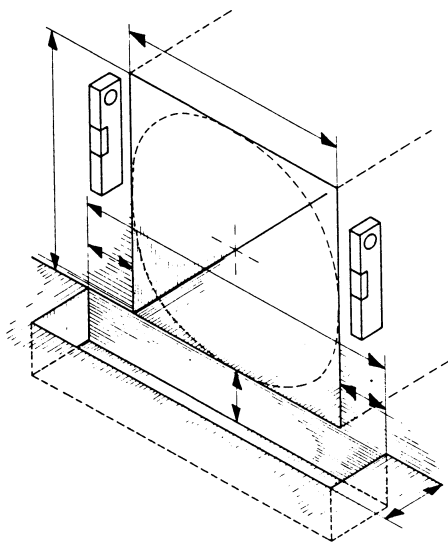


Fig. 1

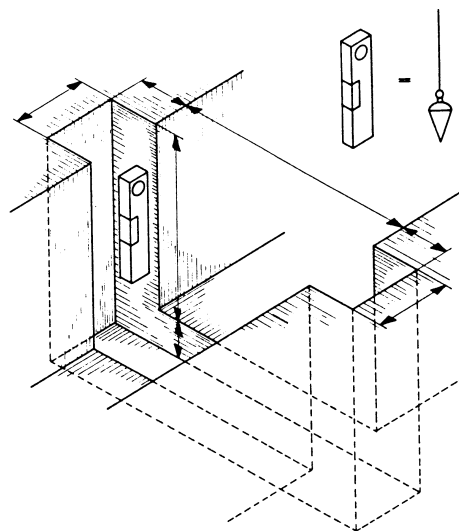


Fig. 2

Large deviations must be corrected on site prior to mounting, as follows:

- a) by grinding, removal, equalizing of uneven surface;
- b) by applying concrete filler according to requirements (tightness, strength).

3.2 Sluice gate with wall-mounting frame

ATTENTION: Mounting and embedding work shall take place with gate in completely closed position, only.

For optimal sealing between wall and frame, the wall construction must be dry.

Position sluice gate in the respective recess in front of the wall opening to shut-off and align with plumb and level, acc. Fig. 3.

On large sluice gates, levelling bolts are attached to the bottom profile (Fig. 4).

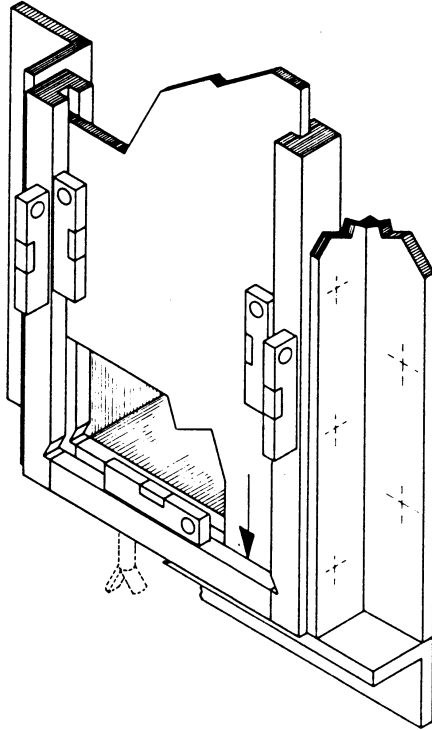


Fig. 3

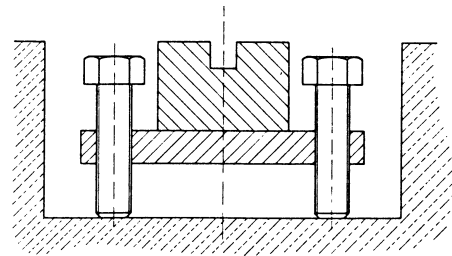


Fig. 4

Depending on the size of the sluice gate, 2-3 dowels per side should be placed to fix frame temporarily with bolts.

Check levelling afterwards with plumb and level. Adjust positioning of sluice gate, if necessary.

ATTENTION: Upper level of bottom profile to comply with finished level (flush) according to architect's plan.

Drill and place remaining dowels and set bolts.

Prior to final fixation, the frame is to pull away slightly from the wall on the bolts. Two rows of sealant shall be placed between frame and wall (Fig. 5).

All bolts can be firmly tightened afterwards.

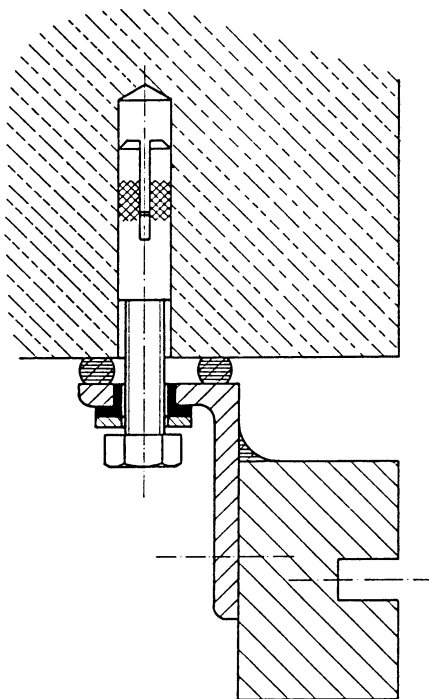


Fig. 5

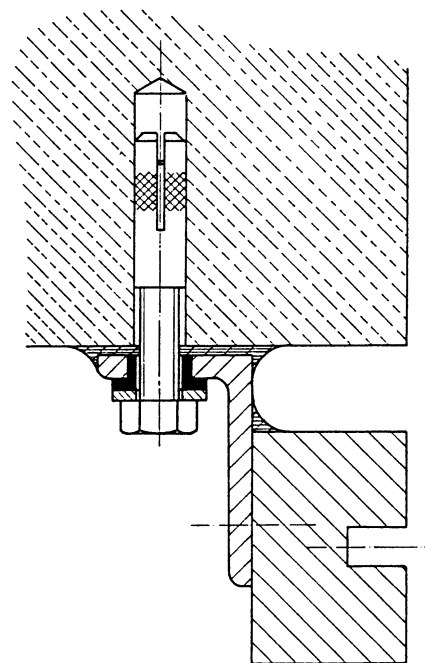


Fig. 6

When tightening the bolts, the sealant gets squeezed out both sides of the frame. Smoothen sealant with finger to a clean grout.

For sluice gates with transverse seals an additional grout is necessary after tightening between wall and transverse seal acc. Fig. 7.

After mounting the actuating components (acc. 3.4.) the gate shall be opened and the sealant on the inside of the frame and transverse seal shall be smoothed to a clean grout acc. Fig. 6 and Fig. 7.

The bottom profile and transverse seal, if existent, require onsite embedding with filler or mortar acc. Fig. 8.

ATTENTION: When filling these recesses **never use any vibrators !**

Bottom and transverse seal profile shall be free of any concrete or other contamination acc. Fig. 8.

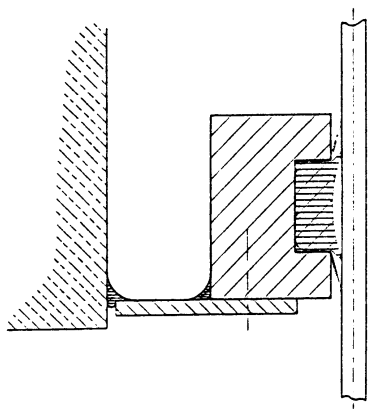


Fig. 7

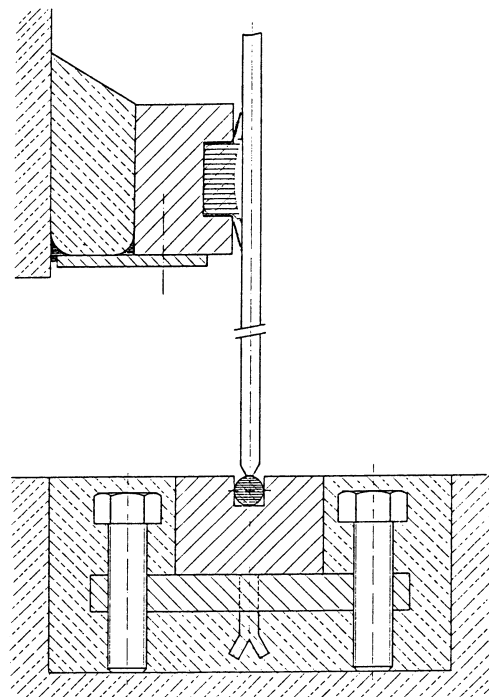


Fig. 8

3.3 Sluice gate with anchor bolts for embedding

ATTENTION: Mounting and embedding work shall take place with gate in completely closed position only.

Position sluice gate in respective recess and align with plumb and level acc. Fig. 9.

On large sluice gates, levelling bolts are attached to the bottom profile (Fig. 4).

Depending on size and weight of sluice gate, 2-3 dowels per side should be placed into the recess and bolts set.

Realign sluice gate with plumb and level.

Anchor bolts and dowel bolts to be weld-connected with bar profile acc. Fig. 10.

ATTENTION: Always weld-connect sluice gate and never just support with wood wedges or other aids.

Check alignment with plumb and level. Realign sluice gate, if necessary.

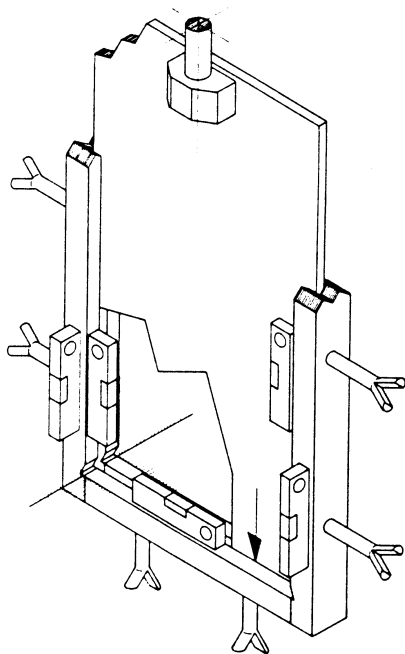


Fig. 9

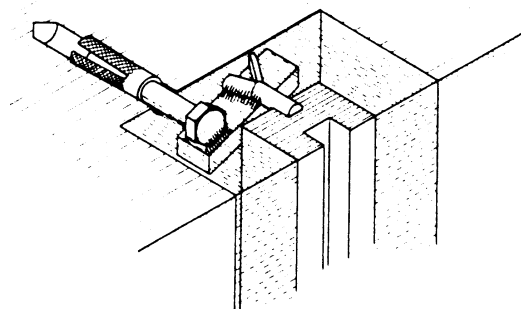


Fig 10

ATTENTION: Upper level of bottom profile to comply with finished level (flush) according to architect's plan.

In such a way positioned sluice gate is ready for onsite embedding.

ATTENTION: When filling these recesses **never use any vibrators !**

Bottom and guide profile shall be free of any concrete or other contamination.

Thereafter, mount all actuating components acc. 3.4.

ATTENTION: All actuating components which are not firmly fixed to the sluice gate shall not be mounted prior to embedding of the sluice gate.

3.4 Actuating components

Extension rod with coupling to be pinned to the bare shaft of the stem. Wall bracket to be left loose on the extension rod.

Align coupled extension rod with plumb and level acc. Fig. 11.

Position wall brackets and drill holes.

For additional supports, floor stands etc., appropriate positioning and alignment acc. Fig. 11 is required, then drill holes.

Check alignment of all components with plumb and level. Realign if necessary, possibly with suitable shims.

Mount and attach all actuating components after setting the dowels.

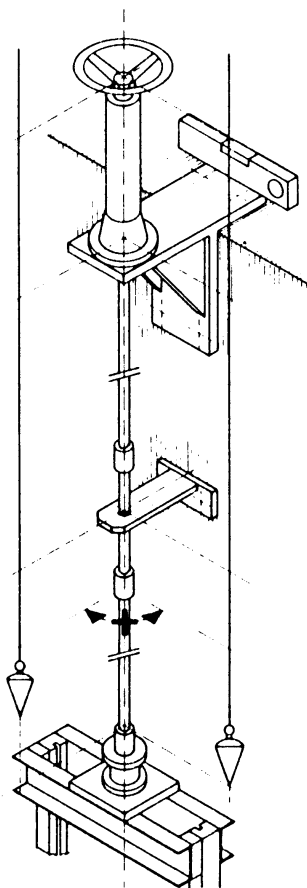


Fig. 11

3.5 Stop log

Place side guides into the recesses, set 2-3 dowels per side where the anchor bolts are, and fix bolts.

Align guides and weld-connect anchor bolts and dowel bolts with bar profile acc. Fig. 12.

ATTENTION: Observe that both side guides are in parallel alignment to each other.

On versions with a seal mounted to the guides, observe that the seal is positioned in seating manner (downstream side) to the medium.

Check alignment with plumb and level acc. Fig. 13.

Realign side guides if necessary.

Remove any strut or brace aids.

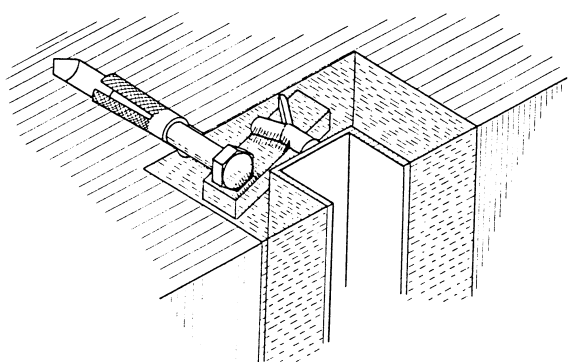


Fig. 12

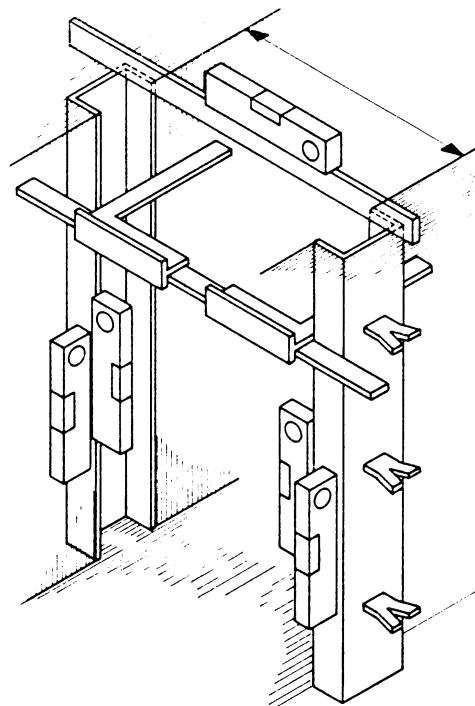


Fig. 13

Insert stop log temporarily to check for parallelism of guides and ease of operation.

In such a way positioned side guides are ready for onsite embedding.

ATTENTION: When filling these recesses **never use any vibrators !**

The side guides shall be free of any concrete or other contamination.

3.6 Mounting aids

Shims in various thicknesses and materials as plastic, brass or stainless steel are required to adjust and align frame members, wall brackets, supports and actuating components. They are used to adjust for uneven construction work. By using shims, the frame gets accurate support for no distortion (bending) during bolting.

For larger discrepancies studs of the respective length may be used if regular bolts are too short (holes too deep, poor concrete quality or for heavy shimming). Insert cut-to-size studs and fix with 2 nuts. After tightening remove counter nut. Studs are replacing too short bolts.

Filler or sealant is required to seal between frame and wall construction.

ATTENTION: If filler or sealant is used, observe manufacturer's instructions with priority.

3.7 Electrolytic corrosion

To avoid electrolytic corrosion, any metallic and electrically conductive contact between concrete reinforcing steel and sluice gate must be interrupted.

Dowels, anchor bolts or other connecting components must avoid the contact to concrete reinforcement. Appropriate checks must take place during and after mounting, however latest and without fail before embedding.

Dowel bolts shall be mounted in isolated version acc. Fig. 14.

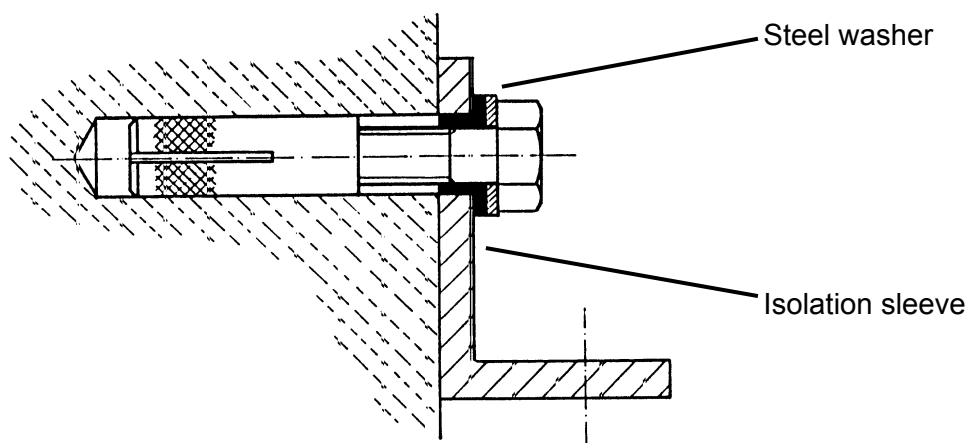


Fig. 14

If coated dowels or anchor bolts are used, isolation sleeves may be obsolete.

4. COMMISSIONING

4.1 General measures

Before taking the equipment into service, all function relevant parts (stem, piston rod, gate, side guides, seals) shall be thoroughly cleaned.

The equipment is factory preserved and lubricated for transportation and storage, but they require depending on the service conditions, another lubrication before start-up.

Lubrication shall take place according to supplier's schedule. Recommended are water-repellent, temperature resistant and long lasting lubricants. (Get your nearest supplier's recommendation).

4.2 Safety measures

For automated equipment installed in an area where gate movement could be dangerous for people (or animals/objects), it must be ensured by the user on-site that all moving parts are fenced with a suitable cover or protection shield.

Such covers are optionally available from manufacturer.

4.3 Manually operated equipment

Check sluice gate for any tensions due to distortion during cycling and for ease of operation.

Check the setting of the limit switches (if existent).

On stop log installations the concrete bottom closure level or the bottom profile of the frame shall be checked for flatness.

Discrepancies shall be levelled out.

Insert stop log and check for alignment of frame due to embedding work.

4.4 Pneumatically operated equipment

Solenoid valves shall be mounted as close as possible to the actuating cylinder.

The size of the air supply pipes has to be in relation to the required air volume.

Before start-up, all on-site mounted supply pipes and solenoid valves shall be thoroughly flushed and cleaned, if necessary.

For the actuation of the cylinder we recommend the use of slightly oiled supply air.

Factory mounted solenoid valves are normally provided without accessories like throttle or muffler. On-site regulations must therefore be observed.

4.5 Electrically operated equipment

For trouble-free commissioning of electric actuators, we recommend to call on our specially trained customer service specialist.

On-site electric installations shall be in accordance with respective connecting diagram of the supplier. In addition, the specific operating instructions of the actuator supplier shall be observed.

Before the first electrical operation, the gate shall be moved to an intermediate position with the manual override, and then started.

When connecting to the power supply, the phase sequence has to be observed.

ATTENTION: With wrong phase sequence, limit and torque switches are ineffective.

The switch-off shall be in accordance to our instructions/diagrams, i.e.:

- Switch-off in opening and closing direction with limit switches only. The torque switches serve as overload protection.

5. MAINTENANCE

5.1 Operating cycles

During one service year, at least four (4) operating cycles shall take place, whereby all components shall be checked. Under severe service conditions, such functional checks shall take place more frequently.

5.2 Cleaning / Lubrication

Gate guides, stem and stem nut shall be free of dirt and contamination and shall be periodically lubricated, specially when heavy operating conditions are recognized.

Lubrication shall take place according to supplier's schedule.

The seals in the side guides shall also be lubricated to avoid any bake-on tendency of the gate during longer stand-still periods.

Water-repellant, temperature resistant and long lasting lubricants shall be used (get your nearest supplier's recommendation).

For equipment with electric actuators, the lubrication point on the drive should be especially observed (version with rising stem).

The respective operating instructions of the actuator supplier are binding.

6. TROUBLE SHOOTING

Symptom	Cause	Remedy
Leakage between gate and transverse seal	Transverse seal damaged	Replace transverse seal according to manufacturer's instructions
	Gate contaminated or calcified	Clean gate
Leakage between frame and wall construction	Sealing grout defective	Repair or remove and re-do grout
	Dowel bolts loose	Tighten dowel bolts
Leakage through seat	Gate not completely closed; jammed particles between gate and frame members	Manually operated equipment:
		- Open gate slightly and repeat closing action
		- Remove jammed particles
	Jammed particles between stem nut and transverse seal member	Pneumatically and oil hydraulically operated equipment:
	- Open gate slightly and repeat action.	
	- Check if new setting of clevis, resp. stroke is necessary.	
	- Remove jammed particles	
		Electrically operated equipment:
		- Open gate slightly and repeat closing action; check; possibly reset limit switches (acc. supplier's recommendation)
		- Remove jammed particles
	Seals damaged	Replace seals according manufacturer's instructions
Gate is not movable	Actuating components damaged	Manually operated equipment:
		- Check and clean stem, stem nut, gate and guides; replace if necessary; lubricate

6. TROUBLE SHOOTING (Cont'd)

Symptom	Cause	Remedy
Gate is not movable (Cont'd)	Actuating components damaged	Pneumatically and oil hydraulically operated equipment: Check supply pressure. Check if current onto solenoid existent. Check solenoid for damages. Check actuating cylinder for damages (seals). Clean and lubricate, if necessary replace damaged components acc. to supplier's instructions.
		Electrically operated equipment: Check if current existent. Check if motor defect. Check if limit switches defect or malset. Check if gear, stem or stem nut damaged. Clean and lubricate, if necessary replace damaged components acc. to supplier's instructions
Closing or opening stroke ceasing or stagnating	Insufficient supply pressure	Pneumatically and oil hydraulically operated equipment: Check supply pressure possibly increase supply pressure
	Solenoid valve dirty	Remove and clean solenoid valve, possibly install filter
	Piston rod seal damaged	Remove and clean piston rod seal, replace cylinder seals and lubricate
	Gate guides clogged	Clean and lubricate
Pressure loss on supply net	Pipe connections damaged	Check pipe connections, tighten, replace if necessary.
	Cylinder seals damaged	<ul style="list-style-type: none"> - Check and replace cylinder seals, lubricate - Check piston rod, clean, lubricate

7. FINAL REMARKS

All details given above are to our current up-to-date knowledge and shall provide, together with our technical documentation, information about our products and their range of applications.

They are not thought to assure particular features of the products nor their suitability for a specific application.

Faultless quality is assured within our General Sales Conditions.

For any further information, please call any time on our Customer Service Department.

ALTERATIONS AND ADDITIONS RESERVED